

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

1099—Vol. XXVI.]

LONDON, SATURDAY, SEPTEMBER 13, 1856.

{ STAMPEDSIXPENCE.
UNSTAMPED...FIVEPENCE.

JAMES CROFTS, MINING AND SHAREBROKER,
1, PINCH LANE, CORNHILL, LONDON, TRANSACTS BUSINESS,
BUYING AND SELLING, for immediate cash.
MINES, well selected, are the best of any known investments—pay-
ing 30 per cent. per annum in dividends. The choice of NON-DIVIDEND
mines requires careful discrimination. The choice of DIVIDEND
mines is a BUYER or SELLER of the following:—Alfred Consols, Bedford
United, Wrey, Sortridge Consols, North Basset, West Basset, Trewetha, Wh.
Warne, Wheal Edward, West Providence, Wheal Kitty (St. Agnes),
Lalant Consols, Wheal Kitty (Lelant), Vale of Towy, East Russell, Bryn-
lloes, St. Austell Consols, Herward United, Providence, Boscan,
Bryntal, Eastleigh, Ding Dong, Wheal Mary Ann, Great Hewas,
Wheal Basset, United Mines (Gwenap), East Tamar, Cubert United,
Bryntal. —Mr. Crofts is a BUYER of South and East Tamar.
For good, and especially DIVIDEND, shares is advancing.

JAMES LANE, No. 29, THREADNEEDLE STREET,
is a BUYER of South Franks, Alfred Consols, Great Alfred, Mary Ann,
Drake Walls, Margery, Ding Dong, Wheal Grenville, &c. And is a
South Cuddra, Drake Walls, Garton, Exmouth Consols, &c.

JAMES B. BRECHLEY, No. 2, PINNER'S COURT,
BROAD STREET, LONDON, is a BUYER of the following, for cash
transfer, and purvey of certificates of registration:—
10 Mary Ann. 50 Great Baddern.
100 Pedn-an-drea. 100 Gao-ton United.
50 Great Alfred. 100 Porthkella United.
10 North Franks. 100 Tamar Consols.
5 Ding Dong. 100 Par Consols.
25 Hender. 50 Rosewarne and Herland.
10 Wheal Wrey. 10 Clifsh and Wentworth.
Any of the above, can be supplied at market prices. Business
Railway, Insurance, and other securities.

END MINES, well selected, are the BEST of all PUBLIC
INVESTMENTS, paying, as they do (in dividends every two or three months),
30 per cent. per annum. NON-DIVIDEND MINES, carefully chosen,
advance in price 300 per cent., or more.

WATSON, MINING BROKER, STOCK AND SHARE DEALER, having
experience in every department of mining and its management, together
with regular correspondence with mining agents and others in
Cornwall and elsewhere, is enabled to judge of and select mines of intrinsic
value. As a MEMBER of the Mining Exchange, will forward a
when required, and may be consulted daily as to purchases, sales, &c.
Threadneedle-street, London, Sept. 13, 1856.

J. W. STOCKWELL, 75, OLD BROAD STREET, CITY,
gives the best information and advice to persons PURCHASING BRITISH
FOREIGN MINING AND RAILWAY SHARES, STOCKS, &c. Having
acquired a minute and, at the same time, comprehensive knowledge
of all classes, he feels confident of directing purchases and sales with
promptitude and immediate cash settlements may be relied on. Refer-
ence required.

END MINE SHARES FOR SALE, some of which are
at 30 per cent. on present price:—
100 Tamar Consols.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.

CLASS PROGRESSIVE MINES, that will soon pay dividends, and selling
at present, below their value:—
100 Tamar Consols.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.

TO BUY, —Great Hewas, St. Austell Consols, South Cuddra, Wheal
Wanpool, North Buller, Stray Park, Marke Valley, Trewetha, South
Buller, Great Alfred, and Grenville.
Has instructions to effect EXCHANGES in several MINES.
Ma. LELAND, Mine Share Dealer.
Old Broad-street, London, Sept. 13, 1856.

GEORGE SPRATLEY, No. 15, OLD BROAD STREET, has for
THE SALE, at much LOWER PRICES than hitherto offered, the
SHARES:—
100 Tamar Consols.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.

GEORGE BUDGE, of 4, BIRCHIN LANE, CORNHILL,
has SHARES FOR SALE at the following prices:—
100 Tamar Consols.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.

G. SHARP has the following SHARES FOR SALE:—
100 Tamar Consols.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.

H. GARLAND has the following SHARES FOR SALE:—
100 Tamar Consols.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.

ANY ONE SUPPLY, and at what price, a COMPLETE
of Mr. TREDINNICK'S CIRCULAR UPON MINING MATTERS.
To be made to "M. M." Mining Journal office, 30, Fleet-street, London.

GEORGE MOORE, DEALER IN MINING SHARES,
1, CROWN COURT, THREADNEEDLE STREET.
Cash given on receipt of transfer.

MR. JOSEPH JAMES REYNOLDS, STOCK AND SHARE
BROKER, No. 21, THREADNEEDLE STREET, LONDON, begs to return
his sincere thanks to his friends and the public for the liberal support received from
all parts of the Kingdom during the period he has been a BROKER of the CITY OF
LONDON.

Mr. REYNOLDS continues to TRANSACT BUSINESS in BRITISH AND FOREIGN
STOCKS, FUNDS, AND SECURITIES, BRITISH AND FOREIGN RAILWAY
SHARES, DEBENTURES, &c. Also, in ENGLISH, IRISH, SCOTCH, and FO-
REIGN MINING SHARES.

The very nature of mining property is such that it can only be reached by the ad-
venturous; and, if not aimed at with due caution, directed by sound judgment, ac-
quired by experience, is very hazardous; but capital employed in the development
of mineral wealth, with those requisite essentials to success, has generally been found
pre-eminently profitable, the average return being found much greater than that
upon any other kind of investment.

Legitimate mining has suffered much from the multiplication of ill-digested
schemes, but good sound mines are undoubtedly among the most profitable invest-
ments of British capital.

There are now several good dividend-paying mines, with large reserves of ore,
selling so as to pay a very large rate of interest; and others approaching a dividend,
paying state, with prospects of improvement, that in all probability will realize large
profits upon current prices, within a very moderate period.

Having great experience in mining, an extensive acquaintance with the best mines,
and being in constant communication with the most skilful agents, Mr. REYNOLDS is
always in a position to give reliable information, and will have pleasure in giving
such advice only to investors as he feels confident will result in mutual advantage.

MESSERS. POWELL AND COOKE, DEALERS IN MINING
SHARES, No. 9, HERCULES CHAMBERS, OLD BROAD STREET,
LONDON.—The above continue to DEAL in the SHARES of all the leading DIVI-
DEND and good PROGRESSIVE MINES.

On the 15th August we advised the purchase of Great Wheal Alfred Shares, since
which period an advance of 250 per cent. has taken place; we are of opinion that
there will be a further rise in the price, and that this mine will soon rank among the
most important of the Dividend List.—Sept. 13, 1856.

MR. W. LEMON OLIVER, STOCK AND SHAREBROKER,
4, AUSTIN FRIARS, CITY.
BUSINESS TRANSACTIONS IN HOME AND FOREIGN RAILWAYS, FUNDS,
SECURITIES, BRITISH AND FOREIGN MINES, &c.

MR. HERRON, being in the habit of advertising shares for sale at
stated prices, fears that he may be considered as one of the parties to whom
their correspondents "Justice" and "Looker-On" refer; and, therefore, begs to
acquaint the public that he is at all times in a position to CARRY OUT the SALE of
any SHARES which are ADVERTISED by him, provided that an application be
made within a reasonable period after his advertisement appears.

Mr. HERRON begs to state that he will continue to adhere to the same line of con-
duct for the future, which he trusts will be duly appreciated by those disposed to
favour him with their confidence.

2, Adam's-court, Old Broad-street, Sept. 12, 1856.

JAMES HERRON has FOR SALE the following SHARES, at the
prices quoted, and FREE OF COMMISSION:—
100 Tamar Consols.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.

MR. ADAM MURRAY, CONSULTING MINING ENGINEER,
10, HERCULES CHAMBERS, OLD BROAD STREET, CITY.

MR. A. H. PATTERSON, C.E., LAUNCESTON, will UNDER-
TAKE SURVEYS, PLANS, &c., of MINES and MINERAL PROPERTY.

MR. B. LAMBERT, STOCK, SHARE, AND MINING AGENT,
3, HATTON COURT, THREADNEEDLE STREET.

MR. W. M. SIMS, MINING SHAREBROKER AND GENERAL
COMMISSION AGENT, REDRUTH, CORNWALL.

MR. ALFRED VOSPER, ASSAYER
TAVISTOCK.

MR. W. H. BRUMBY, STOCK AND SHAREBROKER,
1, QUIET STREET, BATH.

MR. F. LISABE, C.E., CONSULTING MINING ENGINEER,
OFFICE, 3, DAME STREET, DUBLIN.

MR. E. GOMPERS, No. 98, GRACECHURCH STREET, has
BUSINESS TO TRANSACT in most of the leading DIVIDEND and PRO-
GRESSIVE MINES. Also, in Life, Fire, Maritime Insurance, Steam Navigation,
various Gas Companies, and various Joint-Stock Companies' Shares, returning
regular dividends.

MESSERS. WILLMOTT AND CO., of 68, OLD BROAD STREET,
STOCK AND SHARE DEALERS, are always BUYERS and SELLERS of
DIVIDEND-PAYING and other PROGRESSIVE MINES, SALES and PURCHASES
EFFECTED IN BRITISH and FOREIGN FUNDS, BANKS, the various STEAM
NAVIGATION COMPANIES, and every description of security. A Stock Exchange
List forwarded to all parties doing business with this firm.

MR. WILLIAM MICHELL CONTINUES TO DEAL IN ALL
DIVIDEND and good PROGRESSIVE MINES, at exceedingly close prices.
Cash given in exchange for transfers to all well-known parties; and parties of re-
spectability can have shares registered previous to payment.
Money advanced on Mining Shares.
3, Austin Friars, Old Broad-street, London, Sept. 12, 1856.

MR. R. TREDINNICK, BROKER, AND DEALER IN MINING
BANK, CANAL, AND INSURANCE SHARES, has FOR SALE:—
100 Tamar Consols.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.

MR. R. TREDINNICK begs to announce that, after the 20th inst.,
his BUSINESS WILL BE CARRIED ON at 3, 5, and 10, GRESHAM
HOUSE, OLD BROAD STREET.—London, Sept. 12, 1856.

DEPOSIT, LOAN, LIFE, AND FIRE OFFICE AGENCY.
MONEY ADVANCED UPON HOUSE, LAND, RAILWAY, MINING,
AND OTHER PROPERTY, to any amount, at a low rate of interest. APPROVED BILLS
DISCOUNTED, and all monetary transactions effected, on application to Mr. E. C.
MAYNARD, 41, Old Broad-street, London.
Mr. MAYNARD will shortly open an office also in Cornwall for the same business.

VALUABLE DIVIDEND AND OTHER MINE SHARES FOR SALE.
4 Cargoll. 20 Wheal Guskus. 100 North Ludcott.
5 East Rose. 1 Cambrian Gold. 50 Castell.
10 Tremayne. 20 West Sortridge. 50 Wheal Langford.
20 Wheal Grenville. 50 Mitchell. 10 Bryntal.
20 West Grenville. 50 Nazeon. 10 North Trelawny.
1 South Franks. 1 Wheal Basset. 2 East Tolguis.
10 Great Wheal Alfred. 1 Wheal Buller. 50 East Frongoch.

MR. T. P. THOMAS is favoured with instructions to SELL, BY
PUBLIC AUCTION, at Garraway's Coffee House, Change-alley, Cornhill,
London, on Wednesday, the 17th day of September inst., at One o'clock precisely,
the above valuable SHARES.

Catalogues and further particulars to be had of the auctioneer, 2, Crown-court,
Threadneedle-street, London.

MR. WM. MOORE, 1, CROWN COURT, THREADNEEDLE
STREET, has FOR SALE the following SHARES, or any part, FREE OF
COMMISSION:—
100 Tamar Consols.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.
100 Trelawny.

The above are all dividend-paying mines, and many of them selling at prices
worthy the immediate attention of capitalists.

10 Arthur. 2 East Rose. 10 South Devon.
50 Belling Well. 15 Great Alfred. 20 South Cuddra.
20 Creber. 2 Gram and St. Aubyn. 10 South Garsra.
1 Colladon. 10 Ludeon. 100 Sortridge and Bedford.
5 Duke of Cornwall. 5 Porthkella United. 5 Wheal Edward.
10 Devon Buller. 10 South Ellen. 50 Wheal Grenville.

N.B. Any purchaser of undoubted respectability can have shares REGISTERED,
and receive CERTIFICATES of same, previous to payment.

Business transacted in every description of British and Foreign Mining Shares.
Cash given on receipt of transfer.—1, Crown-court, Threadneedle-street.

CAPT. THOMAS DUNN, of TAVISTOCK, undertakes to INSPECT,
REPORT, and SURVEY any MINES or MINERAL PROPERTY in ENG-
LAND, IRELAND, SCOTLAND, or WALES. No objection to take the management
of any mine or mines in the neighbourhood of Tavistock.

CAPTAIN RICHARD HENRY VERRAN (late of Cornwall)
undertakes to INSPECT, REPORT, and SURVEY any MINES or MINERAL
PROPERTY in ENGLAND, IRELAND, SCOTLAND, or WALES. The highest
references can be given as to character and ability on application.—Address, Brook
House, Llanidloes, North Wales.

CAPT. H. T. VERRAN, M.E., having ARRIVED in CORNWALL
from North Wales, INSPECTING and SURVEYING MINERAL PROPERTY,
he begs to inform his friends, &c., that he UNDERTAKES the same, either in
DEVON or CORNWALL, at any reasonable terms.—Address, H. T. VERRAN, M.E.,
St. Minver, Wadebridge, Cornwall.

NORTH AND SOUTH WALES.—CAPT. JAMES ROACH
(Manager of the Bryntal Mines, near Llanidloes, Montgomeryshire) OFFERS
HIMSELF to INSPECT and REPORT upon MINES and MINERAL PROPERTY
in any part of North and South Wales. Twenty years successive application in mines
of all descriptions, enable him to impart sound judgment to those who may avail
themselves of his services.—Sept. 5, 1856.

MINING OFFICES.—MR. T. CARTHEW, ST. CLARE
STREET, PENZANCE.
Offices of the West Wheal Virgin Tin Mining Company.

MR. A. FRANCIS, MINING AND GENERAL COMMISSION
AGENT, MAY BE CONSULTED at present at No. 164, FLEET STREET
(Anderson's Hotel), from Two until Four P.M.
British and Foreign Mines inspected and reported on.

MR. J. H. CLEMENT, CONSULTING MINING ENGINEER
OFFICE (First Floor), 4, UNION COURT, OLD BROAD STREET, LONDON.
Patent processes examined, and the practicability of such being useful for operating
on large amounts of ore declared.

JNO. W. PERKINS, F.C.S., MERCANTILE, AGRICULTURAL,
AND CONSULTING CHEMIST.
J. W. PERKINS begs to inform his friends and the public interested in mines, agri-
culture, and mercantile transactions, that he may be CONSULTED upon subjects
pertaining to SCIENTIFIC CHEMISTRY. ANALYSES and ASSAYS performed.
2, Poplar-terrace, Poplar.

ELECTRO-CHEMICAL REDUCTION OF ALL THE METALS
FROM THEIR ORES.—MR. CALVERT'S LATEST DISCOVERIES enable
him to TREAT ORES at the MOUTH of the MINE, thereby saving the great ex-
pense of carriage and fuel. His process is inexpensive, and entirely supercedes the
disadvantages of the old acid method. Those who wish to avail themselves of this
important invention, can apply to Mr. HENSON, 113, Strand, London.

MINES SURVEYED, AND PLANS AND SECTIONS MADE
of any PROPERTY at HOME or ABROAD, by Mr. JOHN CALVERT,
MINING GEOLOGIST and MINERALOGIST, whose great practical experience in
Foreign and English mining well adapts him for exploring maiden ground, valuing
lodes, veins, and sets, and whose judgment is constantly the means of enhancing the
value of mineral property, which would otherwise be neglected, or improperly worked.
189, Strand, London.

NICKEL AND COBALT REFINING, AND GERMAN SILVER
WORKS, MILL STREET, BROAD STREET, BIRMINGHAM.—STEPHEN
BAKER begs to inform the Trade that he has the following articles for sale:—
REFINED METALLIC NICKEL. OXIDE OF COBALT. (WIRE, &c.)
REFINED METALLIC NICKEL. GERMAN SILVER—in INGOTS, SHEET,
NICKEL AND COBALT ORES PURCHASED.

GOLDENHILL, COBALT, NICKEL, COLOUR, BORAX, AND
CHEMICAL WORKS.
NEAR STOKES-UPON-TRENT, STAFFORDSHIRE.
JOHN HENSHALL WILLIAMSON, MANUFACTURER AND REFINER.
Reference.—Professor Miller, King's College, London.

FOR IMMEDIATE SALE, BY PRIVATE CONTRACT, a valuable
COAL FIELD in the FOREST OF DEAN, of about 350 acres; abutting on
the Forest of Dean Central Railway, and containing FOUR WORKABLE VEINS
OF COAL of superior quality, of the aggregate thickness of 11 ft. 6 in.—For detailed
information, apply to Mr. JONAS RICHARDSON, C.E., Neath, South Wales; or to
Mr. J. F. CORRETT, solicitor, Worcester.

WANTED, a SITUATION, as MANAGER of IRON WORKS,
by a party who has had considerable experience in very large forges, in
making shafts, &c., up to 20 tons; or he would take a ROLL TURNER'S SITU-
ATION, having worked for some time in that department. Undeniable references can
be given.—Address, "M. D." Mining Journal office, 30, Fleet-street, London.

WEST END MINING OFFICES, 5, WATERLOO PLACE, PALL MALL.
MESSERS. BRUNTON AND CO., MINING, STOCK, AND
SHARE BROKERS.
Mr. BRUNTON, having resided many years in Cornwall, and being well acquainted
with the best mines, OFFERS HIS ADVICE to those who are investing in this de-
scription of property, which yields a very high rate of interest. Dividend-paying
mines may be selected to pay 15 to 20 per cent. per annum; and progressive mines,
upon which large profits may be made. The present prices of many dividend mines
offer unusual advantages to the immediate purchaser.

Messrs. BRUNTON and Co. also effect PURCHASES and SALES in BRITISH and
FOREIGN FUNDS and RAILWAYS, LIFE and FIRE INSURANCE, CANAL, GAS,
STEAM, and other JOINT-STOCK COMPANIES' SHARES, paying regular divi-
dends, and furnish detailed information to their constituents on all stocks and share
properties.

THE MIDLAND IRON COMPANY, ROTHERHAM, YORK-
SHIRE, MANUFACTURERS OF RAILWAY TYRES AND AXLES FOR
LOCOMOTIVE ENGINES, CARRIAGE AND WAGON WHEELS. From the tests
to which this iron has been submitted by engineers and railway companies during
several years, its superior quality has been generally acknowledged, and can be
heartily affirmed.

Now ready, price Sixpence,
REVIEW OF BRITISH MINING IN THE QUARTER
ENDING 30th JUNE, 1856; with a few Particulars of the Position and Pros-
pects of some of the principal Dividend and Progressive Mines.
By J. H. MURCHISON, Esq., F.G.S., F.R.S.,
Author of *British Mines considered as a Means of Investment*.
Copies may be obtained at Mr. Murchison's office, No. 117, Bishopsgate-street
Within; and at the Mining Journal office, 30, Fleet-street, London.

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Original Correspondence.

THE NEW IRON-MAKING PROCESS.

Several of your correspondents seem anxious in this matter to counsel by words without understanding; I think it, therefore, while to indicate their more prominent and intelligible errors, being with Mr. Truran. That individual, be he who he may, who first letters patent "for purifying iron in the liquid state from the blast-furnace, by applying atmospheric air below, so that it may rise up and completely penetrate and search every part of the metal prior to congealing," is not the sole proprietor of the greatest invention in metallurgy, but that process in converting crude pig-iron in 3, 5, 10, 20, or 30 minutes, according as the air orifices are small and numerous, or larger, into malleable iron, or highly decarbonised iron, without any of that contained in the liquid iron itself, and without labour, is the sole and sole proprietor of the greatest invention in metallurgy, whether he performs the act in a "colander," in a vessel, in a furnace, or in the crown of his hat; it signifies nothing what is the name, position, material, or arrangement of the place where the iron is so processed without fuel and without labour. I defy all the subtlety of that perverse intellect that ever sat upon the judicial bench in patent law, to attempt to impugn the patentable novelty of this process, by pretending it is identical with the old refinery, wherein fluid cast-iron, subjected to the downward action of the blast during two hours, is most severely scorched labour in the cycle of iron manipulations, then run out, to be again subjected to two hours more intense labour in puddling-furnace, is either writing for writing sake or something worse.

The theory of *infinite* oxide being blown up in sparks into the air descending in the form of molten globules of protoxide, will completely upon its merits, but it elucidates nothing: supposing it could and did occur, both in the old refinery and the new refinery, what?

However, Mr. Truran's remark, that charcoal iron is iron made charcoal and nothing else, is a very proper corrective of the "charcoal makers' puff."

Truran sneers at the combustion of iron being an economy. If the weight of 1 lb. of iron in the new refinery saves the burning of 10 lbs. of charcoal in the old refinery and puddling-furnace, and the labour of 10 men, saving is likely to be to much better purpose than any of the iron questions he states he has engaged in in his own practice.

But of Sir John Guest's manager, Mr. John Evans, having done Mr. Evans Hopkins asserted, and Mr. Truran admits he did, at Downham, in the least altered by the name of the patentee, nor whether was any patentee at all.

Truran advances a considerable mistake in supposing that I claimed the father of the invention of that process of iron making still alive in many countries where wood charcoal abounds, which previous unknown date, some three or four centuries ago, of the invention of the puddling furnace, was, it is believed, the sole process in use over and over for making iron from the days of Tubal Cain. My father was a smith, and that artificer. What I indicated was his attempt, first made in 1811, immediately after the development of the Lavoisierian chemistry, to apply the principles to the then utterly blind and empirical practices of making, by deoxidising rich ores in a separate vessel or chamber, and refining them in an air-furnace. Mr. Truran ought to make himself acquainted with his subject before he attempts to write on important questions of practical intelligence and experience will understand and

what I have expressed.

"Inquirer" will devote the same pains to calculating the amount of fuel required in the combustion of 1 lb. of iron by the solidification of equivalent of oxygen, as he has embarked in calculating the heat by the combustion of 1 lb. of coal into carbonic acid gas, he may find in bringing himself into light out of the darkness he complains of.

Indeed, many of your correspondents might elucidate their remarks by reference to my first letter on this invention, in your issue, written a week before publication, and I believe the first in opinion published on its merits. As to "Q. C.," he should be told that Butler was one of the greatest of writers, and must not be dealt with the paternity of doggerel.

To leave these small deer, I cannot but express surprise that the native philanthropic Mr. Bridges Adams should write in such a uniform manner on this simple invention, smothering it in a mass of matter, which goes far to compensate the economy of extra-fuel. For instance, could he prove that a succession of small light rollers, requiring to be driven much faster to obtain the same speed of work, and with a multiplication of bearings, gearing, and bands, is an improvement over one pair of large heavy rolls and one pair of hands, what is to do with the new invention? Such a mill of any service might be put up at any force, at any time since puddling and rolling first invented. But, besides the innumerable extravagances of these, such as the proposed union of the refinery and smelting operations, the regeneration of the human race by a reduction of 21. per ton in cost of making bar-iron, &c., what will your practical readers think of that sulphur is the cause of red short, that the Cumberland is a "strongly impregnated with sulphur," which depreciates and that the new process will make these rich ores available by getting away this red short sulphur?

Do not understand the object of this kind of writing, unless it be to fill a very simple and excellent invention with the character of the an epigrammatic trash which needs to be decked out for the ignorant eye with literary flourishes. I cannot tell whence Mr. Adams' possession of his "colander"—in less selected homely English, "colander"—which seems his consummate illustration of Mr. Bessemer's genuineness; but probably he and your other readers may, in your week's Journal, have facts revealed not quite unconnected with the "colander," which will be found fully as astonishing as all that has yet met respecting this great invention.

DAVID MUEHST.

ratus. The air was received into a boiler-shaped vessel, thus to regulate a constant uniform pressure, which I should suppose was about 10 lbs. to the square inch. From this vessel the main pipe was conveyed to the covered furnace, dividing at the bottom into five or six smaller tuyere pipes, the nozzles of which are composed of fire-clay. In the immediate proximity was an ordinary blast-furnace, in full operation on about 600 lbs. of ordinary pig-iron. This primitive process being complete—that of bringing the iron into a molten state—it was run into a "ladle," where it was weighed. At this moment the full blast of compressed atmospheric air was turned into the cupola or refining furnace, where no kind of fuel existed. The fluid iron from the "ladle" was then turned in, and immediately the motion of the molten iron was evident, from the reverberation of the ground on which I stood. After a few minutes—say, four—the amount of dense gaseous matter which was exuding from the two apertures in the top of the sides of the furnace indicated that the carbon and sulphur were being thrown off as carbonic oxide and sulphurous acid gases. From the scintillations, it was evident that the oxygen was playing a most important part; the combustion was so effective as to make the metal boil and heave; until after about 10 minutes, when the crisis had arrived, the "scoria," "tillage," &c., was actually belched out, as much as to say—"Avant! tout damné one."

This continued for some five minutes, until all became comparatively quiet; the gases which now exuded were less dense, until the whole period of only 35 minutes; the blast was turned off, and the purified metal run into an ingot. The whole experiment was conducted with a degree of precision and neatness which would have done honour to a Faraday, a Turner, or a Dalton.

I must not forget to mention that a bar of malleable iron was exhibited. It was about 12 ft. long, 3 in. thick, by 2 in. wide; this was bent, and showed great ductility, though when fractured, as the ironmasters said, the grain exhibited was not such as to lead to expect such ductility. It seems to them a paradox. The fact is, the great secret is getting metallic purity; the particles do not require to be interlaced, or fibrous, to the same extent as when the iron contains even a small proportion of phosphorus or sulphur; the former I consider the most pernicious of the two. I would suggest, with due deference, that a stream of finely pulverised, an hydrate of lime, be forced at a given time, with the compressed air, into the incandescent mass of iron; the lime having a great affinity for silica and phosphorus, would form a phosphate and silicate of lime, and be thrown off with the slag. By this contrivance, I cannot conceive but that the phosphorus would be entirely got rid of. It is a curious chemical fact, that the existence of the minutest quantity of arsenic, if mixed with gold, silver, or copper, will destroy the malleability of these, the most ductile of metals.

I took with me, on leaving the scene of these wonderful practical experiments, a piece of the iron in the pig, and of the same after the refining process. On close examination, the difference was manifest in the purity of the metal and the compactness of the particles; their form was more rounded, and I can imagine, on being submitted to the hammer and roller, how these particles would elongate, and cross each other, thereby mechanically rendering it tough, and capable of resisting weight, without the liability of sudden fracture. I do not believe the process is complete, but, chemically, no one can doubt the great move made in the right direction.

In conclusion, allow me to state that I cannot but pity the host of petty detractions, jealous rivalries, and difficulties which suggest themselves to that class of men who never see anything, until every one else laughs at their intellectual blindness.

E. H. COLLYER, M.D.
3, Park-road, Regent's-park, September 10.

BESSEMER'S NEW IRON-MAKING PROCESS.

SIR,—Bessemer's patent for refining iron seems to be the all-engrossing subject of the iron trade. If it can be successfully carried out, it will effect a most important change in the process of manufacturing iron, more advantageous to the consumer than to the ironmaster. In a scientific point of view there is nothing objectionable in it. The affinities of the elementary atoms of air and metal being successfully brought into action, and the carbon and metallic alloys consequently rapidly removed. There, however, appears to be considerable misunderstanding as to the source of the great heat to which the iron requires to be elevated to continue the fusion of the metal when deprived of its carbon, in which state it is highly refractory to the action of heat. The patentee and most of your correspondents attribute it to the carbon in the iron. Although there is no doubt but some heat is generated by that substance, there can be no question but the proportion due to it is very insignificant, compared to that produced by the combustion of the iron, which produces the most intense heat—much greater than can be readily obtained in a common furnace. It must, however, be borne in mind that the heat thus generated is produced by means of a most expensive fuel, on the extent of the consumption of which must in some measure depend the success which will attend the development of the process. In the experiment exhibited on Aug. 23, it is stated 6 cwt. 3 qrs. 18 lbs. of iron was run into the refinery, which, having been submitted to the action of blast of 3 lbs. per inch pressure for 24 minutes, was run into the ingot in the state of fine steel, weighing 6 cwt., thus showing a loss of 3 qrs. 18 lbs., or upon 20 cwt. a loss of 3 cwt. 6 qrs. 4 lbs.

It is much to be regretted there was no experiment made to show the quality of the iron, or that it was steel at all, for in the absence of proof of any kind, it is quite open to the inference that it was merely cast-iron. We are, therefore, quite in the dark as to what the loss may be in reducing pig to malleable iron, on which the mercantile success of the invention greatly depends. From the great heat necessary to maintain fusion in malleable iron, it must in the ingot be in a high state of crystallization. When in that state, from excessive heat, it is well known to be exceedingly brittle, and liable to fracture; it is, therefore, questionable whether the process of rolling from the ingot, and particularly for large sizes, will be sufficient to produce the necessary amount of lamination to ensure safety. In case it should require heating and rolling into mill bars, to be again cut up and made into piles, there will be no saving in the mill, but the contrary; this, however, remains to be proved. In this process the blast is introduced into the lower, or bottom part of the furnace, hence the necessity for a heavy blast to overcome the pressure of the iron; the tuyers are, consequently, immersed in the metal, and in all probability will be consumed by the intense heat, and will have to be replaced by a new set of tuyers forming the tuyere pipes.

It is asserted that this invention will ensure a reduction of 21. per ton in the cost of manufacture. Without data as to the yield of the metal nothing positive can be stated, but I am of opinion time will show a different result. Not being at present engaged in the manufacture of iron, I feel little personal interest in the matter, but for the benefit of the trade, and for the sake of Mr. Bessemer, to whom much credit is due for his perseverance in carrying out his invention, I sincerely trust it may succeed.—Sept. 10.

BESSEMER'S NEW IRON-MAKING PROCESS.

SIR,—Mr. Bessemer's plans are being canvassed in right earnest. Since my previous letter, your Journal displays a communication from Mr. Sanderson, dissenting from Mr. Bessemer's deductions; another from Mr. Truran, calling in question their correctness; and others from "No Chemist," "Inquirer," and "Q. C.," pregnant with sound sense. The array is too great for Mr. David Muehst, and your last contains a letter from him, half apologetic, half explanatory, of his previous unqualified praise. This unqualified praise, he informs us, was given on the strength of the assertion (of Mr. Bessemer) that it is pure malleable iron in complete liquidity that is run into the moulds—a direct admission, on Mr. Muehst's part, that he may have taken an exaggerated view of the question. The assertion "gold-graining" is not distinguished from previous inventions by anything in particular but by everything in general.

Mr. Muehst speaks of decomposing water, a matter which I never once alluded to, and is in high glee with his misrepresentation. Will he tell us where the latent heat of high-pressure steam goes to if it does not enter the iron? and will he explain the higher heat of the steam puddling furnace? I can easily tell him the quantity of oxygen in 1 foot of air at 10 lbs. and 1 foot of steam at 35 lbs. With a barometer at 30 and thermometer at 60° each foot of air will contain 900 grains of oxygen; according to Watt and others, 1 foot of steam at that pressure contains more than 700 grains of oxygen. Mr. Muehst has got to brush up his "pseudo chemistry" a little, and his arithmetic a great deal, if these questions of his are to be taken as a sample of ability.

Mr. W. B. Adams endeavours to prove that Mr. Nasmyth was the first to propose the passing of a vapour through iron to purify it, and the latter modestly assumes to himself the credit. On turning to the *Mechanics Magazine* for Oct. 1850, I find patentees claiming "the use of steam forced upon, or into, or in contact with, the metal in the refinery and puddling furnace." After this extract I should like to see the nature of Mr. Nasmyth's claim to originality. I may remark, that the United States Commissioner of Patents refused him protection, because of his claims being essentially as the foregoing.

Estimated by his letters in the *Times*, Mr. Adams must be an able professor of the art known in vulgar parlance as "buttering," alias "scaping." The renowned baron is a mere child at this work compared with Mr. Adams. His letters, however, when analysed, are readily seen through. Mr. Adams is a fertile inventor, but he is not an ironmaster; he is not a metallurgist, and he is not a chemist, but he is a man who is not content to adopt to their pecuniary disadvantage. Hence, while extolling Mr. Bessemer as a demi-god, he liberally bestows manufacturers for their success in not appreciating the incomparable merits of his own inventions. That Mr. Adams' knowledge of iron making is of a very superficial kind, everyone who has perused his letters will admit. The "oxygenated scale" is a creation of Mr. Adams, and known to him alone.

I should like to see Mr. Bessemer's statements confirmed by Mr. W. Fairbairn, then whom a better authority on iron does not exist. Mr. Nasmyth is one of our first iron-makers, but he has made no experiments on iron. Last year he boasted his ability to make a monstrous wrought-iron gun, and, after expending some thousands of our money, by permission of Government, and tinkering at a piece of iron for six months, the discovery was made that the good qualities of the iron were destroyed. To practical men the wonder is that any known substance could have borne such ill-usage without utter annihilation.

Mr. "Go-ahead" deserves more attention than your readers are likely to give him.

He hastens to tell you of a discovery which he made on Sept. 2, in entire ignorance, I presume, of the fact that the presence of malleable iron, under certain circumstances, is well known. At the great trial of Hill v. Thompson, in 1818, mention was made of the thin cast-iron plate, lying under the hearthstone, but over the false bottom, having been changed into a kind of malleable iron, after 30 years use. Pieces were broken off, and, after manipulation by a smith, stood punching; other pieces, heated in the balling-furnace, fused before they attained a welding heat. Even supposing it had been everything one could desire, where is the ironmaster that would bury the pigs 30 years to make them into bars? In this matter "Go-ahead" is about 40 years astern of others. His description of the remarkable accident savours strongly of fiction. The lining of the furnace was in a half-fused state—very good, this is tolerably strong; I must say it was a very peculiar furnace that had such a lining; next, a quantity of liquid metal, passing down (from the boiler, I suppose), was impounded near the tuyere, in a sort of refinery, and a vigorous hot blast played upon it for a considerable time, turning it into excellent wrought-iron, we are told, and required to believe. I pass over some minor discrepancies, to ask "Go-ahead" how came it that the oxygen of the blast did not oxidise any of the impounded iron? Was the well-known affinity of oxygen for iron at high temperatures suspended for his special behoof? Pieces of malleable iron adhering to old horses are as common as old furnaces themselves, but the process by which they are formed extends over years, and bears no analogy to Mr. Bessemer's 30 minutes' process.

Mr. "Go-ahead" asserts, that the "vigorous hot blast" playing upon the liquid iron converted it into wrought-iron. He seems not to be aware that he has made a discovery which throws Mr. Bessemer's immeasurably in the shade. Henceforth ironmasters have only to play on the iron with a "vigorous hot blast," and the wrought-iron is made in the blast-furnace itself. Talk of converting vessels, the hearth of the blast-furnace is the place; lower the tuyers, or, what may do as well, place a couple with viscerous heat blast through the hearthstone before casting, and the casting-bed will contain, not pigs and scoria, but excellent wrought-iron rail bars, nail rods, boiler plates, horse shoes, penknife blades, and every conceivable article in iron and steel ware.

A bare consideration of the discovery which "Go-ahead" has unwittingly made, makes the perspiration roll down his cheeks. Listen all, ye salaried ironmasters, whether fanners, puddlers, shinglers, rollers, rollers, sawyers, or any of the smaller fry, your place is coupled with viscerous wisdom; so many forges, blacksmiths, or other workers in iron; a few tinsmiths will do all your work. The age of cast-iron has arrived. Ye have scoffed at the supposition of the blast-furnace running wrought-iron nails through a tap-hole of the required section, until ye are too hardened to believe anything; but the matter is no longer a doubtful one. "Go-ahead" has discovered the blast-furnace that will do all this, and a great deal more to boot.

On getting to the end of "Go-ahead's" chapter, we are favoured with a very pretty specimen of his "strenuous wisdom." "It is very easy," he says, "to take down any quantity of pulverised charcoal, coke, or pure anthracite into the (liquid) metal." He had better try the experiment, and then say if it is so "very easy." The increasing quantity of carbon with the iron in the simple manner he describes has baffled the efforts of all preceding experimenters, and is usually considered a sheer impossibility. However, since "Go-ahead" has a blast-furnace that will run wrought-iron rails out of the tap-holes, he may have the ability to introduce into the iron any conceivable quantity of carbon. It is unmistakably clear that "Go-ahead's" inability to see the unparalleled discovery which he has made known must have arisen from his mental faculties having fallen into the deplorable "sundering," "winking and nodding," state peculiar to lunar controversialists. He has ruined Mr. Bessemer's prospects. Who will pay 10s. a ton for using the brick pot, when they can get the wrought-iron from the blast-furnace at once?

Sept. 6. A RETIRED FURNACE.

THE COPPER TRADE.

SIR,—I cry you mercy to "A Miner," for saying it to be a gross absurdity to subscribe 300,000, or 500,000, for smelting operations, when less than one-half would suffice; but I am not so sure he can escape the imputation, when he proposes amalgamation of such conflicting interests as the miners and manufacturers, it being the object of the one to buy copper as cheaply, and of the other to sell it as dearly, as possible. I cannot imagine how he would propose to make them harmonise. There is something more absurd than that, it is to suppose that the miners will agree to sell their copper at a price below the market, and be aptly illustrated by a quotation from George Colman, of facetious memory:—"For what's impossible can't be, and never comes to pass."

What is it, after all, that "A Miner" and his confederates complain of? I will not stop to ask whether justly so or not—why that the miners, manufacturers, and the public generally, suffer under the dictatorship of the smelters' association, who regulate prices as they deem it expedient and proper to do; but will admit it to be an evil—a most crying one, if you please. Does "A Miner," however, propose the right way to remedy it, and is there no other than the one he suggests, of direct antagonism to an united and powerful phalanx, and by a heavy sacrifice of money? The question, fortunately, does not turn on whether "A Miner" may think me a stupid or a clever fellow; but let me tell him he may avoid such antagonism and sacrifice of cash, and yet still satisfy the circulars of the association, if such be, as I presume, his object. I am not so sure, by-the-by, that the miners suffer much under the present system—a "London Consumer" says they do not; but, by a very simple operation in the market, it is possible to deprive them of this power of regulating prices, and even reducing their profits to a minimum rate, but I am by no means certain that the miners would benefit by doing either.

In conclusion, "A Miner" will permit me to remind him of an exclamation of Mirabeau, which I give him, altering one word only:—"On ne fait pas des révolutions à l'encre."—*Gray's Inn-square, Sept. 10.* THOMAS LIVING HILL.

THE "GREAT EASTERN," OR MAMMOTH IRON STEAMER, NOW BUILDING AT MILLWALL.

SIR,—I have to thank you for the high eulogium you were pleased to pass upon the model and drawing for my improvements in the mechanical construction in the art of iron ship-building; and as those remarks in your Journal of the 6th inst. draw a comparison between my plan and the *Great Eastern*, as not being up to the times in her mechanical construction, I must, out of justice to the mechanical standing of England's artisans, crave your indulgence to point out where that beautifully draughted vessel is imperfect, and behind the times in efficient mechanical construction; and rather than have, by any unforeseen chance, a mistake made now, which will not easily be remedied, I will venture to point out some of the defects which will turn out in every piece of the ship to be deficient of that which I would make any remark about the mechanical talent of the gentlemen, whoever they may be, connected with her construction, as not being up to their work, or that the ship is not strong enough to do her work when launched.

Last week, I had the pleasure of meeting one of the shareholders of the *Great Eastern*, and that gentleman, having been in his earlier days a master mariner, is now a shipowner. I showed him the same model and drawing as exhibited at your office; he, in turn, showed me the model and drawing of the *Great Eastern* as wanted to appear across the plates; and as it is useless for me to do more than to indicate in detail of the *Great Eastern's* construction, after your kind remarks, I will conclude this communication by showing how the *Great Eastern* ought to have been built—that is, if it be the wish of the directors to be up to, and not (as they unquestionably are) behind, the times in the scientific and mechanical art of ship-building. The *Great Eastern* ought to have been so constructed in her framework as to represent a ship, if only covered with paper. Its unity of parts should have been so arranged, that if, in appearance, the casual observer, it was one piece, without a joint. Hence, rigidity would be entire, the plates jump, and the joints, and by this mode of construction, the plates would rest far on the frame attached to it, without filling up ships; and being thus united by the rivets, it would be an utter impossibility for deflection to take place. Upon this plan of construction alone can perfection in the art of iron ship-building be accomplished, by carrying out maximum strength with minimum weight of material.

This, contrasted with the plan which the *Great Eastern* is being built upon, will be readily seen by the mechanic; but as there are eight weak parts in every piece of framing in the *Great Eastern*, doubly weakened by the plates punched through the angle and plates of iron for the rivets, all of which could be made without a joint, the plates being lap or clincher joints, will throw a great strain upon the rivet heads, and the middle of the plates not having support from framing, fully proves the defective point in this particular part of the ship. The engineers of the *Great Eastern* must not lose sight of the resistance from the waves, which will be very different upon a ship being forced against a heavy cross sea, than the comparison with the Britannia Tube, across the Menai Straits, which is a fixture, without motion.

As England's credit in mechanical science is at stake in this gigantic piece of naval architecture, I trust the *Great Eastern* steamship company will pause before they commit themselves too far, when they have a chance of making their property as near perfect as the construction of the vessel at this stage will admit of.

21, Exchange Buildings, Liverpool, Sept. 9. JOHN CLARK, Junr.

BOILER EXPLOSIONS.

SIR,—The late destructive boiler explosions at Bury, and other places, causes me to call your attention to my safety boiler (see your advertising columns, &c.), which was proved last December before some of the most experienced engineers of the day, and which stood a test of ten times the pressure of what was intended as the bursting pressure at the Bury explosion. Now, it appears very clear that three-fourths of the boilers now at work in this country will not stand more than a few pounds over their daily working pressure; this is an alarming state of things at this time of the 19th century. If a safety valve gets fast, or is over-weighted, off goes the boiler, like a powder magazine.

Windsor Bridge Iron-works, Pendleton, near Manchester, Sept. 8. T. DIXON.

VALVE REGULATORS FOR STEAM-ENGINES.

SIR,—Being much engaged in the construction of steam-engines, I naturally watch every invention calculated to increase their efficiency which may be brought before the public with considerable interest, and am ever willing to accord to inventors every honour which they are entitled to; yet I am bound to acknowledge that, from the present system of granting patents, much time, which I second more advantageously employ, is irretrievably lost. This assertion will, no doubt, be met by one equally true, that if I waste time in examining into the merits of the several patented inventions, my loss is absolutely insignificant when compared with that of those who have obtained the patent—and, it may be added, paid for it. However true this may be, it appears to me that the appointment of a competent board to examine into the originality of every invention would be of immense advantage to inventors and the public generally.

In the *Mining Journal* of March 11, 1854, you described an invention, patented by Mr. W. Huntley, of Rusewarp, near Whitley, for an improved arrangement, whereby he obtained power to regulate both the "lead" and "travel" to the greatest nicety, and the action was so speedy and complete, that the engine could be stopped short without communicating the slightest jerk—indeed, the steam can be applied in such a manner as to materially assist in stopping the engine. At the date referred to, therefore, the merits and full particulars of the invention could have been ascertained with the greatest facility, yet nearly two years after (Jan. 1856) provisional protection was granted to Mr. Edward Lloyd, of Dee Valley, near Corwen, Merionethshire, which, as far as I can judge, is precisely similar, although I hope, for the sake of both patentees, I may be proved in error. Mr. Lloyd's invention, it is true, did not proceed to the Great Seal, but that circumstance has no effect upon the principle; and had the patent been proceeded with, there can be no doubt that a dispute would have arisen, giving unnecessary trouble to the actual inventor, and causing damage to the second patentee, who would have wanted his cash to secure a patent for a considerable time, without which he could not have used another patent.

I should be glad to learn what Mr. Huntley is doing with his invention, and pre-

good in the 25 and deeper levels as they have been in the 15, large returns are certain, and profitable results cannot be prevented.

COLLACOMBE.—S. Mitchell, Sept. 9: The men in the 62, west of Morris's shaft, will finish the large vein, stopping a piece of ground to make the western shaft complete to the bottom of this level, when the driving west of the western shaft will be resumed; the 62, east of Morris's shaft, has been driven 3 ft. 6 in. since last reported, and composed of quartz, manganite, prase, and increased quantities of rich copper ore. The 50, west of the western shaft, has been driven 4 ft. 6 in. since last reported, and composed of quartz, manganite, prase, and increased quantities of rich copper ore. The 50, east of Morris's shaft, has been driven 4 ft. 6 in. since last reported, and composed of quartz, manganite, prase, and increased quantities of rich copper ore. The 50, west of the western shaft, has been driven 4 ft. 6 in. since last reported, and composed of quartz, manganite, prase, and increased quantities of rich copper ore. The 50, east of Morris's shaft, has been driven 4 ft. 6 in. since last reported, and composed of quartz, manganite, prase, and increased quantities of rich copper ore.

CUBERT UNITED.—J. Trowin, Sept. 6: The 10, south end, is 18 in. wide, composed of quartz, manganite, and producing occasional stones of lead; the 10, west of this level, is 12 in. wide, composed of quartz, manganite, and producing occasional stones of lead; the 10, east of this level, is 12 in. wide, composed of quartz, manganite, and producing occasional stones of lead; the 10, south end, is 18 in. wide, composed of quartz, manganite, and producing occasional stones of lead; the 10, west of this level, is 12 in. wide, composed of quartz, manganite, and producing occasional stones of lead; the 10, east of this level, is 12 in. wide, composed of quartz, manganite, and producing occasional stones of lead.

CWM DAREN.—F. Evans, Sept. 6: The 10, in the 50 ft. level west is still large, with spots of copper ore. The 10, in the 40 ft. level west is 8 ft. 6 in. wide, composed of quartz, manganite, and producing occasional stones of lead; the 10, in the 30 ft. level west is 8 ft. 6 in. wide, composed of quartz, manganite, and producing occasional stones of lead; the 10, in the 20 ft. level west is 8 ft. 6 in. wide, composed of quartz, manganite, and producing occasional stones of lead.

DAREN.—J. Humphreys, Sept. 8: We are driving in this level, and breaking ore, which we hope will yield well, and make a good profit. No alteration in Francis's level since last report. The pitches in Level C are all looking well. We are proceeding fast with the dressing, and can sample about 20 tons of lead ore by the end of next week.

DEVON AND COURTNEY.—T. Bawden, Sept. 11: We have a great improvement in our north level in the adit level, the 10, being 5 ft. wide, composed of quartz, manganite, and copper ore, worth for the 10, 10 ft. per ton. We are getting on as fast as possible with the erection of the drawing machine and grinder, and hope the whole will be got to work within about six weeks from this time.

DEVON BURRA BURRA.—Capt. J. Lord, Sept. 10: The engine-shaft is progressing favourably, and the ground is of a beautiful character for copper ore. We are sinking about 7 feet per week.

DEVON WHEAL BULLER.—W. Neill, Sept. 11: The engine-shaft is sunk 13 fms. below the 32, wherein we have commenced driving a cross-cut north, 8 feet from the present bottom, to intersect the lode, which is about 3 fms. apart. In the 32, driving going on by the side of it, with good stones of ore on the footwall; in the back of this level, about 12 fathoms below the 32, we have commenced a rise, where the lode is 4 feet wide, ore throughout. The lode in the same level, driving east, at present is small, but still a prospect of an improvement as we get a little farther east under the ore ground that has gone down in the level above. The lode in the 30, driving east, is producing a little ore. The 30, in the back of this level is producing 1 ton of ore per fm. The 30, in the bottom is producing 1/2 ton of ore per fm. The 30, in the bottom of the same level, west of cross-course, is producing 1 ton of ore per fm. The new shaft sinking on the south lode continues much the same, about 2 feet wide, producing some good stones of copper ore.

EAGLEBROOK.—H. Trapp, Sept. 8: In driving the 30, west of the engine-shaft, the lode in the present level is about 3 ft. wide, composed chiefly of carbonate of lime and quartz, with spots of lead; the lode in the end has a very kindly appearance. In the 10, west of the engine-shaft, we still continue driving on the branch going north-west; this branch is now about 1 ft. wide, composed of spar, copper, and a little lead, the ground here is very hard, consequently our progress is slow, we intend to continue this for a few days, and if no improvement takes place we shall recommence driving the level in the same direction as before. In No. 1, stop, in back of the adit level, east of the engine-shaft, the lode is about 3 ft. wide, composed of gossan, porphyry, and lead, producing about 15 cwt. of the latter per fm. In No. 2, stop, about 20 fms. east of the engine-shaft, the lode is about 10 ft. wide, and much of the same character, producing from 15 to 20 cwt. per fm.; west of the engine-shaft, in this level, the men are now engaged in cutting down the north side, about 14 fms. west of the shaft; the lode here will yield about 12 cwt. per fm. At surface, by the end of this week the 30-foot wheel will be completed, and we expect to have everything ready to work in about a fortnight from now. Our dressing operations are doing well, we expect by Saturday next to have 20 tons of lead clean.

EAST ALFRED CONSOLS.—W. Painter, Sept. 2: We have a very good lode for its depth (15 fms.) from the surface, the ore we are getting from it being very rich indeed. We shall shortly sample, for certain, 10 tons, or a little more, of fair quality copper ore. The lode is producing large slabs of manganite, with good stones of ore in the lode. We must shortly have meeting to consider about engine.

EAST ALFRED CONSOLS.—W. Painter, Sept. 9: We are looking well still at the mine; the lode in one part is from 4 to 5 fms. wide with ore, and indicating something very good. Capt. Bryant was underground to-day, and he thought the mine would do well, if carried down to a good depth.

EAST GARRAS.—Capt. Jas. Pope, Aug. 30: We are still cross-cutting towards the lode in a very favourable strata—a fine kille, and from its appearance I think very likely to make lead as soon as we cut the lode, and from what can be seen I think we have 10 or 15 fathoms more to drive. The branch cut last is small, and not worth pursuing, but I hope the next we cut will be more encouraging.

EAST GOLDSOPE CONSOLS.—The engine-shaft is now down 9 fms., with a good leader of ore in the hanging-wall of the lode. A bargain has been set to sink this shaft 6 ft. for 90 ft., to include all cost.—Sept. 10.

EAST HENDER.—W. C. Vivian, Sept. 6: In the adit level east the lode is 3 feet wide, and producing good stones of yellow copper ore. We have 35 to 40 fms. south of our present lode, and of which report speaks very highly.

EAST ROSEWARNE (GWINAR AND CROXAN).—W. C. Vivian, Sept. 6: There is nothing new to report on the adit level being driven west on the Wheal Brook north and south lode, and south on the cross-course. The engine continues to work well, and having forked to the 12 ft. level we are now preparing to drop to the 22 ft. level. In the course of the ensuing week we shall, according to present appearances, have cleared the 12 ft. level and the whim-shafts communicating with it, and have laid open the run of tribute ground left by the former workings.

EAST WHEAL ROBERT.—Capt. Collier reports, Sept. 10: A considerable improvement has taken place in the appearance of the ground in the end driving from the sink, since we were here on Monday. Yesterday the men broke some fine stones of rich copper ore, but the walls of the lode are still undefined.

EAST WHEAL ROSE.—MONTHLY REPORT.—J. Evans, Sept. 10: At North Wheal Rose, the engine-shaft is down 3 fms. below the 160, and opening ground that will let at 22. 10s. per ton tribute. The 160 south is let at 35. 5s., and the 160 north will let at 85. The back of the 150 is working on an average tribute of 50. 10s. The prospects in this part of the mine are tolerably well, and likely to continue. Purser's engine-shaft, sinking below the 160, will be down to the 170 by the latter part of next month, and opening ground that will let at 85. per ton; the 160 north will let at 85.; and the 160 south is let at 22. 10s. The prospects in this part of the mine have lately been very dull, but are now a little improved. Michell's engine-shaft, sinking below the 160, is opening ground that will let at 75.; the 160 south at 75.; and the 150 south at 75. The prospects here are not of a flattering character. At Penrose's, the 150 is not driving; the men are engaged in sinking Baynard's shaft below the 140, which will be communicated to the 150 north in the latter part of next month. The 140 north is let at 75. The 90 south, on east lode, at 85. The 70 south, on east lode, at 95. The 60 south, on east lode, at 75. 10s. The 50 south, on east lode, at 85. 10s. The 40 south, on east lode, at 65. The prospects in this part are a little better. We shall raise for August 20 tons of lead ore.

EAST WHEAL RUSSELL.—W. Metherell, Sept. 11: We have taken down the leading part of the lode which carries the ore in the 85; the lode is looking just the same as when we resumed driving, producing good saving work. The 66 continues much the same, producing stones of ore. The 55 east is producing saving work. We are sinking Homersham's shaft with all possible speed.

FEE DONALD.—J. Muffet, September 8: The branch of ore sinking under the level B never looked better than it does at present; it is from 6 in. to 1 foot wide, and worth from 1 1/2 to 2 tons of lead ore per fm.

GAREG.—John Trevelthick, Sept. 10: The lode at the engine-shaft continues its size, 7 ft. wide, and yielding fine lumps of lead ore. The 50 is in a lode 4 feet wide, composed of limestone, clay, with a mixture of carbonate of lime and lead ore. We sampled this 5 tons, 4 tons of which came from the shaft in sinking 4 1/2 fms.

GAWTON.—J. Hamby, J. Trevelthick, Sept. 3: We have holed the rise from the 24 to the 12 ft. level, which will now give us good air in the 24, and enable us at the next setting to drive the 24 ft. level west on the lode, and sink the winze at the same time. We shall now put in a footway in the rise from the 24 to the 12, which will be much safer for the men than to go through the whim-shaft while driving. We find the holed of this rise has improved the air in the 36 ft. level. We shall now put two more men in the rise from the 36, to force on as quickly as possible, but we find the ground in the rise and winze much harder than we expected; but no time will be lost in communicating this with the 36, which will then give us good air through the mine. The ground in the 36 cross-cut, driving to the middle lode, is a little improved; the air is also much better. We look forward with great anxiety to the completion of the rise and winze, as then we shall be enabled to put on 20 men to break ore from the lode.

J. Hamby, J. Trevelthick, Sept. 10: In reference to the prospects of the mine we never looked better than at present, and since we holed the rise in the back of the 24, we have a fair current of air in this level. The men in the winze are working well, and in moderate ground. The lode in this level will turn out 4 tons of good ore per fm., and we are expecting here some further improvements as we approach the junction of the two lodes—that of the present with the middle lode, in the course of driving west. In the 35 cross-course, driving south towards the middle lode, the ground is much improved, and mineralized throughout; in this level we think we may reasonably expect a course of ore when we cut the lode, from the improved state of the ground, as well as from the appearance of the lode in the back. This lode is standing all whole to surface, and presents a fine appearance as can be seen of gossan, manganite, and spots of copper, with a strong cap on the wall. In the rise in the back of the 36 the ground is moderate; we hope in the course of another month to hole the rise, which will greatly assist us in taking away the ore from this back. In this level we have a good lode, which will turn out 3 tons per fm., and have no doubt of a further improvement here also as we approach the junction of the two lodes. We shall, in the course of another month, set several pits on the tribute; we shall then have good samplings. Our machinery is working well, and in good repair.

GELLIRHIRON.—J. Jones, Sept. 6: The shaft has this week been completed, and we are now dressing from the old hillside, with every appearance of success; we believe this department of our work will give the company a fair profit. The stopes over Bonall's level is ore for from 8 to 10 feet wide, and yields ore that will give profit. The stopes over Francis's level has greatly improved in rising, and we believe it will give a fair profit for stoping, besides the advantages of laying open ore ground in length in the level; all our expenses will now be diminished. We shall have to

make the air pipes to carry air to the rise above Francis's level, and also to complete the round bubble.

GREAT CRININ.—S. B. Rice, Sept. 8: In the 80, driving east of Union shaft, the lode is worth 95. per fm. for copper ore; there are six men employed in driving this level, being more than last month. I am glad to say that we are opening out ground that will prove of much value when worked on tribute. At the engine-shaft, 9 fms. below the 90, we are now getting on very well with the clearing. The stuff which we are hauling to grass contains a quantity of malleable copper; we have nearly 2 tons of surface, estimated to be worth 30s. per ton, and the quality of the work now being done to surface is better than we have had for some time. There are eight men and four boys engaged in clearing. In the 24, driving east on the course of the middle lode, the ground is moderately fair—driving at 10. 10s. per fm., by two men; the lode presents a kindly appearance for making ore, but at present it is not of much value. In driving the 20, east of Union shaft, the lode is 1 ft. 6 in. wide—driving at 35. 5s. per fm., by four men; this level is extended 11 fms. east of the shaft, the lode is at present poor. At Hannah's shaft, there are two men driving west on the course of the middle lode, to communicate with a rise put up from the 24, west of engine-shaft; we are within a few feet of the rise, and as soon as the ground is holed we shall be able to set it on tribute. In referring to the tribute department, some parts of the mine are looking prosperous: from the present prospects we calculate that our next sampling will exceed this one in value. We are engaged in sampling the ores of the last two months' working; the value of which will, it is estimated, exceed 10000.

GREAT ONSLOW CONSOLS.—G. Rickard, Sept. 9: In the pitch below the 60 west there is no change to notice. In the cross-cut south, in the 72, the ground continues much the same as last reported. The 57 east presents good appearances; the lode is very large, and contains a great quantity of fluor-spar, with peach and ore, worth for the latter 10s. per fm. There is no important change at the engine-shaft.

GREAT SHEBA CONSOLS.—J. Spargo, Aug. 10: In cutting through the lode in the bottom of the 40 near the eastern cross-course, and preparing to sink a winze, we have broken some very large stones of ore which have had day been hauled to surface; at this point the lode has very appearance of improvement, both in the back of the 40 as well as under, and is about 10 ft. wide. The lode in the winze that we are now sinking in the bottom of the adit is 8 feet wide, producing good stones of copper ore, and likely to improve as we go down. The pitch in back of the 40, east of Rowe's winze, is worth 12s. per fathom; the pitch in back of the 40, west of Rowe's winze, is worth 13s. per fathom, and is improving. The pitch in back of the 30, east of Rowe's winze, is worth 17s. per fm., here the tributaries are doing well; I have obligated them to set a pitch in the back of the 40, west of the adit, at 12s. 6d., and another in the back of the 20, east of the shaft, also at 12s. 6d., but there is not sufficient done to state the value of ore per fathom. I have put one man and a boy to rise by the side of the lode, near the eastern cross-course, as I flatter myself we shall open more tribute ground in a few fathoms rising.

GREAT SOUTH TOLGUS.—J. Daw, Sept. 9: The lode in the 70 is 1 1/2 foot wide, worth 20s. per fm. I think we shall have a better lode in this level soon. The lode in the winze sinking below the 60 is 2 1/2 ft. wide, worth 45s. per fm.; this winze is 23 fms. west of the 70 end, and all the water is drained to the bottom of the 70.

GREAT WEST SORTBRIDGE.—J. Richards, Sept. 11: At the engine-shaft the progress is still slow, owing to the hard and wet nature of the lode. The lode is composed of very fine capel, manganite, and rich ore. In the 20, west of the engine-shaft, the lode is composed of capel and quartz.

GREAT WHEAL ALFRED.—M. W. Mitchell, W. Hughes, W. Arthur, Sept. 6: The lode in the 150 west of the engine-shaft is 2 1/2 ft. wide, unproductive. The lode in the 150 west is 2 feet wide, worth 37s. per fm. The winze sinking below the 170, a few fathoms west of the latter, is in the footwall part of the lode, to communicate with the 150 as soon as possible. The lode in the 170, west of Copper-house shaft, has considerably improved, being now 5 ft. wide, worth 30s. per fm. The lode in the 160, west of latter shaft, is 4 1/2 ft. wide, worth 45s. per fm.; the winze sinking below this level is worth 70s. per fm.; the rise in back of this level is worth 45s. per fm. The lode in the 145, west of said shaft, is 3 ft. wide, worth 13s. per fm. In this end we are daily expecting an improvement. The south lode, in the 137 end, is 2 ft. wide, worth 16s. per fm. No change to notice in any other part of the mine.

GREAT WHEAL BADDELY.—J. Jenkins, Sept. 9: We have communicated the rise in the back of the 61 with the winze sunk in the bottom of the 81, and hope in the course of a day or two to have this level well ventilated, when we intend to drive on the end with all speed, which will enable us to increase our samplings. We have commenced sinking a winze in the bottom of the 51 ft. level, 18 fathoms east of the former, in which we have a very good lode of lead. The lode in the 51, west from eastern engine-shaft, is about 2 ft. wide, producing good stones of lead ore, and has a more promising appearance than we have ever seen it before. The lode in the 30, east of the 51, is about 4 ft. wide, 1 ft. of which is turning out good saving work. The other part of the lode, the tributaries, are much the same as last reported.

GREAT WHEAL YOR.—Cress's shaftmen have cut ground for the branch piece of the lift shaft, and the ground for the shaft, fixed the pulleys, and reared the lift from the 154 to the 144. Trevelthick's shaftmen have been cutting bearers-holes, and putting in bearers for the drop-lift, to be in readiness for the next drop before hand, fixed a winch at the 138 for doing the work in the shaft.—Main lode: No. 51. The lode in back of 90, east of Highburrow, is worth 19s. per fm. No. 52 and 53. The lode in bottom of ditto, east of ditto, are worth 12s. per fm. No. 117. The lode in back of 90, west of 81, is worth 15s. per fm. No. 118. In the lode in bottom of ditto, east of ditto, the lode is worth 18s. per fm. No. 119. In the lode in bottom of ditto, east of ditto, the lode is worth 18s. per fm. No. 120. In the lode in bottom of ditto, east of ditto, the lode is worth 18s. per fm. No. 121. In the lode in bottom of ditto, east of ditto, the lode is worth 18s. per fm. No. 122. 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JOINT-STOCK COMPANIES ACT, AND MINING ADVENTURERS.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—By last week's Journal, it appears a question has been raised whether it is imperative on all mining companies, not within the jurisdiction of the Stannaries, to be registered under the recent statute, and the opinions given in your last Journal would imply it is imperative. I have carefully gone through the statute, and come to a different conclusion, and on the following grounds:—

The 4th section says, that not more than 20 persons shall carry on trade or business, &c., unless they are registered under this Act, or are authorised by Act of Parliament, charter, letters patent, or mining companies within the Stannaries. Now, if the statute stopped here, I admit all companies not within the exception would be bound to be registered under this Act, but the clause contemplates companies carrying on business contrary to this provision, and imposes a penalty, and says if they do carry on business contrary to this section, that the shareholders shall be severally liable for the debts of the company. Let us take a case—A mining company, under the Cost-book System, established in Wales, does not register under this statute, and continues to carry on its business after November next. The shareholders say, We desire to be individually liable for the debts of the company, and will not register under the recent statute. Who is to compel this company to register? Under what clause is it prevented carrying on its business? Who can proceed against it? Where is it declared illegal? The 11th clause gives liberty to any company duly constituted by law (except completely registered companies) to come within this statute at any time. Who will deny that the company I have named was a legally constituted company at the time of the passing of the recent statute. The repealed Joint-Stock Act recognised it; and our courts of equity and law have always recognised mining companies on the Cost-book System, although out of the jurisdiction of the Stannaries. The 11th clause, therefore, implicitly admits the legality, and gives liberty to this mining company to carry on its business as heretofore. I have been further asked—Can a company on the Cost-book System, out of the Stannaries, be now formed and carried on without registering under the Joint-Stock Companies Act? I answer—Yes; with the penalty imposed by the 4th section. I think the recent statute says—"Here is an Act which will limit the liability of adventurers if you choose to adopt its provisions; if you do not, then each adventurer shall be individually liable for all the debts of the company."

I give you my views with some hesitation, because many legal friends, of whose judgment I have the highest opinion, differ with me. The words of the statute are somewhat obscure; and I hope the discussion of the question will be continued until a solution be arrived at. I have only expressed an opinion as to its being imperative for companies to register; as to the policy, there can be no doubt all companies ought to take advantage of the statute: few will be inclined to take shares in a company, and be liable for all its debts.

C. H.

THE NEW LIMITED LIABILITY ACT,

AS APPLICABLE TO MINING COMPANIES OPERATING OUT OF DEVON AND CORNWALL.

Sir,—The proceedings of the Coed Mawr Pool and Dalriw meetings a report of which appeared in your last Journal) were followed by an application to the Board of Trade, as to "whether the same Act does, or does not, absolutely extinguish, by rendering illegal, all cost-book companies with shareholders exceeding 20 in number, whose operations are carried on out of Devonshire and Cornwall, so that they are required to be constituted and incorporated under the new Act." No reply has yet been received to this application; it has probably been referred to the Registrar-General's department. But as respects the necessity of all such cost-book companies so registering, I find in Wordsworth's Treatise on the subject (page 2), just published, the following words:—"What are called cost-book mining companies have recently been established in Wales, and in other places than Devon and Cornwall. Such companies, if composed of more than 20 persons, can no longer carry on business, or be established, except under the provisions of this statute."

This is plain enough, but I would observe that, if such companies should persist in carrying on business without being so registered under the new Act, the fourth section provides that "every person so acting shall be severally liable for the payment of the whole debts of the partnership, and they may be sued for the same without the joinder in the action or suit of any other member of the partnership." And further, in an unregistered company any number of the partners may acquire themselves of their partnership liability by a notice or protest.

I apprehend that all prudent companies will ultimately determine upon registering. It is singular, however, that the Act should have omitted to make the proceeding compulsory upon companies not exempted under the Stannaries clause; for if the conditions of registration be not compulsory on other companies, why make any such exemption at all? G. I. S.

18, Cannon-street, Sept. 11.

MINING PROPERTY.—The advance in Great Wheel Alfred shares affords a good illustration of the fluctuations to which mining property is subject. On July 26, the shares were to be purchased at 2½, they are now rising from 12 to 13: from the first date, the advance in price has been—in four weeks, 100 per cent.; one week, an additional 20 per cent.; another week, a further 25 per cent.; and within six weeks, 375 per cent.

SUBMERSION OF THE SOUTH TAMAR MINE.—In our last Journal we gave an account of the accident which had caused the suspension of this mine. The South Tamar was generally known by miners as the Cow's Mine, the bottom level of which is stated to be 130 fms. deep, that under the bed of the river was 30 fms.; for a considerable period several of the workmen have expressed their apprehension of danger accruing from the slide. At South Tamar, now called the Tamar Consols, a flow of water occurred about 13 years since. The South Tamar, it is reported, runs south under the river, and extends backwards for about one-half or three-quarters of a mile, where in following the vein a level has been made running into the East Tamar. This mine, although so near, has not been endangered. The general opinion of the labourers is that the accident took place in the slide, and not in the lode. It appears that the agents had exercised due caution, and visited the mine daily, and that the accident was totally unforeseen—in fact, such confidence had the workmen in the safety of the mine, that several of them had taken bargains for the September setting. The disaster does not appear, however, to be irreparable: it has been suggested that the gap, which is only 10 feet by 4 feet, could be easily stopped by a dozen or 20 bales, closely pushed and sunk by large pieces of granite, which could easily be obtained in the vicinity; in the event of these not being immediately available, a dozen iron girders could be used. The accident has caused great distress in the neighbourhood of Beeralston. It is rumoured that several of the miners are about to emigrate to Chili, Australia, and America; while the lord of the manor, the Earl of Mount-Edgcumbe, will, by the loss of the dues, experience a great depreciation in his mining property. It is, however, anticipated that means will be taken to fork the mine, repair the damage, so that it can again be put in working order, without the enormous cost which in some quarters has been stated.

RATING OF MINES.—The minutes of evidence taken by the Select Committee of the House of Commons, on the Rating of Mines, have been published. The evidence, it will be remembered, was reported very fully in our Journal in July.

THE BEST FINISHED, AND QUICKEST ERECTION.—Great praise is due to Capt. Richard Soothery, from Tuckingmill, Cornwall, for the erection of a 12-horse stamping-mill, now at work in the Paruma Mines, Colombia, South America, which is the best stamping-mill now in operation in Colombia, South America, was completed within the short period of two months.—AN INSPECTOR.

PRICE OF MATERIALS,

As charged at the STRAY PARK MINES, during the following months:—

Description.	March.	April.	May.	June.
Coals, carriage included.....per ton	15s. 6d.	15s. 6d.	15s. 6d.	15s. 6d.
Timber, balk.....per foot	0 10	0 9	0 8	0 9
Iron, common.....per cwt.	10 6	10 6	10 6	10 6
" faggotted....." "	13 0	13 0	13 0	13 0
" Crown....." "	13 0	13 0	13 0	13 0
" hoop....." "	13 0	13 0	13 0	13 0
Steel, cast....." "	50 0	50 0	50 0	50 0
Shovels, iron....." "	30 0	30 0	30 0	30 0
Chairs, ½ in....." "	25 0	25 0	25 0	25 0
Lead, sheet....." "	25 0	25 0	25 0	25 0
Nails, patent, ½ in....." "	19 9	19 9	19 9	19 9
" patent, 5 in....." "	19 0	19 0	19 0	19 0
Rope.....per lb.	51 0	51 0	51 0	51 0
Hemp.....per lb.	51 0	51 0	51 0	51 0
Yarn.....per lb.	51 0	51 0	51 0	51 0
Tallow.....per cwt.	65 0	65 0	65 0	65 0
Oil, olive.....per gall.	6 6	6 6	6 6	6 6
Candles.....per doz.	5 0	5 0	5 0	5 0
Cane....." "	5 0	5 0	5 0	5 0
Hills, above....." "	5 0	5 0	5 0	5 0
" pick....." "	1 6	1 6	1 6	1 6
Powder.....per 100 lbs.	57 0	57 0	57 0	57 0
Safety-lamp.....per col.	0 3½	0 3½	0 3½	0 3½
Leather.....per lb.	1 6	1 6	1 6	1 6

•• TAPPING'S PRIZE ESSAY ON THE COST-BOOK SYSTEM, enlarged and augmented, with Notes and an Appendix, can be had at the MINING JOURNAL office, 26, Fleet-street.—Price 5s.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET, London, Sept. 12, 1886.

COPPER.	S. S. d.	BRASS (sheets).....p. lb.	10d.-10½d.
Copper wire.....p. lb.	0 11 0-12	Wire.....	10d.
ditto tubes....." "	0 11 0-12	Tubes.....	12d-14d.
Sheeting and bolts....." "	0 10 0-11	QUICKSILVER.....p. lb.	1s. 9d.
Bottoms....." "	0 1 0-1 1		
Old (Exchange)....." "	0 0 10½		
Best selected.....p. ton	110 10 0	Foreign.....	27 0 0-—
Tough oak....." "	107 10 0-—	To arrive.....	26 10 0-—
File....." "	107 10 0-—		
South American (nom.)....." "	100 0 0	In sheets.....	33 0 0-—
Bars, Welsh, in London....." "	9 0 0-—	English, blocks.....	131 0 0-—
ditto, to arrive....." "	8 10 0-8 12 6	ditto, Bars (in barrels).....	132 0 0-—
Nail rods....." "	9 10 0-—	ditto, Refined.....	133 0 0-—
" Stafford, in London....." "	9 15 0-10 15 0	Banco.....(nom.)	132 0 0-134 0 0
Bars....." "	9 2 0-10 10 0	Straits....." "	130 0 0-132 0 0
Hoops....." "	10 5 0-11 10 0		
Sheet, single....." "	11 5 0-13 0 0		
Fig. No. 1, in Wales....." "	4 10 0-5 0 0	TIN-PLATE.....	
Refined metal, ditto....." "	5 10 0-5 15 0	IX Charcoal, 1st qua. p. ox.	1 17 0-—
Bars, common, ditto....." "	7 12 0-8 0 0	IX Ditto 1st quality....." "	2 0 0-—
ditto, railway, ditto....." "	7 12 0-8 0 0	IX Ditto 2d quality....." "	1 15 0-—
ditto, Swed. in Lon....." "	14 0 0-16 10 0	IX Ditto 3d quality....." "	2 1 0-—
in stock to arrive....." "	13 0 0-15 10 0	IX Coke....." "	1 11 6-—
Fig. No. 1, in Clyde....." "	3 14 0-—	IX Ditto....." "	1 17 6-—
ditto, in Tyne and Tees....." "	3 11 0-3 18 0	Canada plates.....p. ton	13 0 0-15 0 0
ditto, forged....." "	3 10 0-3 10 0	In London; 30s. less at the works.	
Staffordshire Forge Fig....." "	4 15 0-5 0 0		
Welsh Forge Fig....." "	3 15 0-4 0 0		
English Pig....." "	23 15 0-24 10 0	Yellow Metal Sheathing.....p. lb.	10½d-11d
ditto sheet....." "	24 15 0-25 10 0	Wetted's Pat. Mel.....p. cwt.	2 2 0-—
ditto red lead....." "	25 0 0-27 0 0	Stirling's Non-lamina....." "	9 0 0-9 2 0
ditto white....." "	27 0 0-28 10 0	Surface Ralls.....p. ton	—
ditto, in bond....." "	27 0 0-28 10 0	Stirling's Patent....." "	—
American....." "	23 0 0-—	Toughened Pigs....." "	—
		ditto....." "	—
		Indian Charcoal Pigs....." "	—
Swedish, in kegs....." "	19 10 0-21 0 0	In London....." "	—
ditto, to arrive....." "	19 10 0-21 0 0	MANGANESE.....(31 cwt.)	—
ditto, in fags....." "	22 0 0-—	Ground.....p. ton	6 4 0-7 8 0
English, Spring....." "	18 0 0-23 0 0	Giesse Lump....." "	5 0 0-5 5 0
		Nassau ditto....." "	4 5 0-4 7 0

* At the works, 1s. to 1s. 6d. per box less.
+ Four months' credit, and free on board at Rotterdam. The per centage of peroxide is about 50 for Nassau lump, 64 to 65 for Giesse, and 66 to 75 for ground.

REMARKS.—The metal market during the past week has been more active, and we may anticipate an increased demand for some kinds. Prices, though generally the same as last week, have in some instances considerably improved.

COPPER remains very firm at the quotations, and a rise is still spoken of. IRON.—Makers are full of orders, and it is difficult to induce them to take more, except for distant delivery. Scotch pigs have been dull, with a limited business and a downward tendency, until yesterday, when the tone slightly improved.

SPELTER has continued to advance, and there is every probability of it still going higher.

TIN.—An advance has been announced on English qualities during the week of 4½ per ton on block and bar, and 5½ per ton on refined. Foreign may also be quoted 5½ higher than last week. In Holland, the last price paid was 76½ fl., and sellers are now asking 77 fl. The Ocean Home, run down in the Channel lately, had 3000 slabs Banca on board for New York, and if this quantity has again to be supplied, it will cause a further advance.

TIN-PLATES are in good demand, and firm at present quotations. LEAD, STEEL, and QUICKSILVER, without alteration.

LIVERPOOL, SEPT. 11.—Since our last report, our market for all kinds of iron presents no feature calling for especial notice, the demand continuing in much the same state as then described. Welsh bars maintain their position, and the advance which has been in some instances established is freely paid, whilst orders for forward delivery, at current rates, are not wanting. In Staffordshire Iron, also, the position of the market is unchanged, and complaints are still made of the scarcity of orders and declining prices, although, with respect to the latter feature, there seems to be, if anything, rather more prospect of a check to downward rates than otherwise; this check, of course, will depend considerably upon the amount of orders which come into our market during the next few weeks, and to the consequent course which may be adopted at the next quarterly meeting. Scotch Pig-iron has suffered a further decline during the week of about 1s. per ton, and until the last day or two business has been at a standstill; yesterday, however, several thousand tons changed hands, at prices still in favour of buyers. Speculation in the article appears to be altogether dead, and prices are mainly supported by the extensive shipments and consumption still going on. The shipments for the week are 10,821 tons, against 10,982 tons in the corresponding week of last year; which, although showing a trifling reduction (say, of 161 tons), are yet large, and, with the quantity required to be set aside for the local consumption, cannot but absorb the make. The position of the trade may be regarded, therefore, as legitimate and healthy. An advance in English Tin was declared on Tuesday, to the extent of 4½ per ton on common, and 5½ per ton on refined; this advance was not unexpected, seeing the course which foreign Tin was taking, the sales of which have been very considerable. Tin-plates, which were strong before this advance took place, have acquired additional firmness, and higher prices are demanded, with every prospect of being obtained; the demand for this article continues to be very considerable, and not only do the makers in some instances refuse to take fresh orders, but as is not often the case, there appears to be no stocks in second hands. Copper remains unaltered, although the declaration of an advance would not be a matter of surprise; that an advance will be declared there appears to be little doubt, and the demand is such as to render it not improbable that this course may be adopted immediately. We have to notice a reduction in the price of lead, to the extent of 20s. per ton; business in this article is quite on a moderate scale. Zinc sheathing has advanced 20s. per ton, consequent upon the improved demand for spelter. The following are the quotations:—Iron: Merchant bar, 8½ to 8½ 7s. 6d. per ton.—Tin: Common block, 131½ per ton; common bar, 132½; refined block, 138s.—Tin-plates: Charcoal, 10, 36s. to 36s. 6d. per box; coke, 10, 31s. to 31s. 6d.—Lead: Sheet, 24½ per ton; pig, 23½.—Copper: Cake and tile, 107½ per ton; best selected, 110½ per ton; sheathing and bolt, 1s. per lb.—Yellow metal sheathing, 10½d.

GLASGOW, SEPT. 11.—During the week our market has continued exceedingly flat, and a slight reduction in price has taken place. A considerable business was done at 7½s. 9d. to 7½s. 6d., and yesterday morning iron was offered as low as 7½s. 3d., but in the afternoon 7½s. 6d. was again obtainable. To-day, several transactions have taken place at 7½s. 6d., closing sellers at that price. No. 1, g.m.b., 73s. 6d.; No. 3, 70s.; No. 1, Gartsherrie, 77s. Shipments this week, 10,821 tons; corresponding week last year, 10,982 tons: showing a decrease of 161 tons.

PARIS, SEPT. 11.—The forges are in a state of complete stagnation, although the general appearance of the retail trade does not seem to warrant it. The feeling that prices will be maintained is not so strong, and in some quarters a fall has even been talked of. At Charleroi, pigs for fusion are calm, whilst those for castings continue in request. The Bergant of Essen-Werden has furnished the *Moniteur des Interets Matériels* with a resume of the production of coal in the basin of the Ruhr, for the first half-year of 1886, from which it appears that the quantity raised was 900,107 tons for the six months of 1886, and 828,636 for the corresponding period of 1885—increase 71,471 tons; sale and consumption, 1886, 836,097 tons; 1885, 797,118—increase 38,979 tons. The number of work-people employed was 11,035 men, and 17,093 women and children, in 1886; and 9618 men and 15,363 women and children in 1885—increase 1517 men, 1728 women and children. The average daily produce 6082 tons in 1886, and 5637 in 1885—increase 445.

At New York (Aug. 30), in the Metal Market, copper sheathing, copper, and spelter, showed an upward tendency. Pig-iron continues in fair request, with a good demand for the best refined English. Block tin was firmly held, the dealers having advanced the price. Lead quiet, with very little doing.—By the last despatches from San Francisco, iron of all descriptions was heavy in supply, and the market remarkably dull.

MINES.—A rise in tin of 4½ per ton, with an expected advance in copper, and an improved standard, have given a fresh impetus to mining, and whilst the general stock markets are dull, with little doing in them, a considerable amount of business has been transacted in mining shares since our last, with a very healthy tone pervading the market. North Bassets have advanced to 38, with few sellers; West Basset, 30 to 31; Basset, 28½ to 29½; Buller, 295 to 300; Devon Consols, 405; South Frances,

360 to 365; Alfred Consols, 13½ to 14½, and several enquiries for the mine having improved, and there is likely to be an advance; South Caradon, 290, in demand; South Tolgus, 140 to 150; East Tolgus, 40 to 50. The principal run during the week has been for Great Alfred shares, which have advanced from 5½ to 11½, 12. In the Journal of August, when these shares were 2½ to 3, we called attention to them, and stated they were below their value, and likely to rise, arguing from the fact that the objects for which upwards of 40,000 had been expended—namely, getting into the dip of the elvan course west—was about being attained with every prospect of success. It would now appear that the 160 fms. level, which is the most westerly, has improved to 80½ per fm. The 160 and 170 fms. levels, which are considerably behind the 160, are worth, the former 27½, the latter 30½ per fm.; the winze sinking below the 160, 70 per fm.; the rise in the back, 45½; the 148 west, 12½ per fm. As the ground is particularly easy, especially in the 170, a large quantity of ground will speedily be opened out. Condurrow, 120 to 125; Grenville, 31s., 32s. 6d., 35s.; in Great South Tolgus, shares have advanced to 10½ Mary Ann, 38 to 39, firm; Trelawny, 22½; Wheal Margery, 32½ to 33½ Margaret, 40 to 42½; Hender, 4½ to 5, mine rather improved; Sortridge Consols, 2½ to 3; West Frances, 20; Wheal Wrey, 8 to 8½; North Wales, 2 to 2½; St. Day United, 20s. to 21s.; Porkellis, 10½ to 11; Downs, 2½, 2½; Holmbush, 2.

Mining Exchange Official List of transactions during the week:—

SATURDAY, SEPT. 6.—Great Alfred, 6½, 6½; Porkellis, 10½; Sortridge Consols, 2½; South Frances, 36½ to 365; Wheal Basset, 280 to 285. MONDAY.—Alfred Consols, 13 to 13½; Great Alfred, 7½, 8½, 8½, 8½, 8½; Hender, 4½ to 5; North Trevelyan, 11s. 3d.; Porkellis, 10½ to 11; Sortridge Consols, 2½; St. John del Rey, 20½; 20½; Trevelyan, 31s. 6d.; Wheal Creber, 3s. 4d.; Wheal Grenville, 30s., 31s., 31s. 6d.; Wheal Mary Ann, 38 to 39½; Wh. Ury, 4½. TUESDAY.—East Frongoch ½ to ¾; East Tolgus, 50 to 52½; Great Alfred, 8½, 8½, 8½, 8½, 8½; Great South Tolgus, 10, 10½, 10½, 10½, 10½; North Trevelyan, 11s. 3d.; Port Phillip, 2s. to 2s. 3d.; Sortridge Consols, 2½, 12s. 10d., 2½, 2½; St. Day United, 20s. to 21s. 6d.; Wheal Basset, 285 to 290; Grenville, 31s.; Wheal Mary Ann, 38. WEDNESDAY.—Alfred Consols, 13½; Drake Walls, 2; Great Alfred, 8½, 8½, 8½, 8½, 8½, 8½, 8½, 8½, 8½; Great South Tolgus, 10 to 10½; Sortridge Consols, 2½ to 2½ 10½; West Frances, 20½; Wheal Grenville, 1½; Wheal Wrey, 8 to 8½. THURSDAY.—Great Alfred, 9½, 10½, 10½, 10½; Lady Bertha, 11 to 11½; Sortridge Consols, 2½ to 2½ 10½; South Frances, 36½, 36½, 36½, 36½; Trevelyan Consols (new), 6s.; West Basset, 30½ to 31½; West Frances, 18½; Wheal Basset, 285 to 285½; Wheal Buller, 297½; Wheal Wrey, 8 to 8½. FRIDAY.—East Rose, 12 to 13; Great Alfred, 10½, 11, 11½, 11, 11½, 11½; Hender, 4½ to 4½; Lady Bertha, 11s. to 11s.; North Basset, 37½, 38, 38½, 38½, 38½; North Down, 1½; Sortridge Consols, 2½ to 2½; Trevelyan, 3s. 3d. to 7s. 6d.; Wheal Grenville, 31s., 32s., 1½, 1½; Wheal Wrey, 8; Drake Walls, 2½; Kelly Bay, 3s.

Business reported to have been done on the Stock Exchange:—

SATURDAY, AUG. 6.—South Frances, 360 to 362½; West Basset, 30½; Sortridge Consols, 2½ to 2½; Par Consols, 20½; Great South Tolgus, 9 to 10; Wheal Grenville, 31s. 6d.; Wheal Ury, 4½; Porkellis United, 11½; Mendip Hill, 2 to 2½; St. John del Rey, 22½ to 22½.

MONDAY.—West Basset, 30½ to 30½; Wheal Mary Ann, 38½ to 39; Sortridge Consols, 2½; Par Consols, 20½; Trevelyan, 3s. 9d. to 3s. 9d.; Wheal Alfred, 7½; Wheal Ury, 4½; New Granada, 8s. 9d.

TUESDAY.—Wheal Basset, 282½ to 285; West Basset, 30½; Wheal Mary Ann, 38½ to 39; Sortridge Consols, 2½ to 2½ 10½; Trevelyan, 3s. 9d. to 3s. 9d.; Great South Tolgus, 10 to 10½; Par Consols, 20½; Great Wheel Alfred, 7½, 8½, 8½, 8½; Wilberd, 11 to 11½; West Frances, 20½; Sortridge Consols, 2½; Great Wheel Alfred, 7½, 8½, 8½; Great South Tolgus, 10; Wheal Grenville, 30s. to 31s.; East Frongoch, 2½; Wilberd, 1 to 1½. THURSDAY.—Great Wheel Alfred, 9½, 10½, 10½, 10½; Lady Bertha, 11½.

The arrivals of ores and metals during the week are as follow:—

MONDAY.—In London, 1425 bars iron from Cronstadt, 200 casks steel from Sweden, 41 casks zinc from Belgium.

TUESDAY.—In London, 55 kegs steel from Sweden, 515 slabs tin from Holland.

WEDNESDAY.—In London, 1734 plates copper from France, 5668 bars iron from Cronstadt, 1768 bars iron from St. Petersburg, 2609 bars iron from Sweden.

THURSDAY.—In London, 1708 bars iron from Sweden, 2700 bars iron from Cronstadt, 7 casks copper ore from Jamaica, 100 slabs tin from Holland, 107 casks and 12½ sheets zinc from Belgium.

FRIDAY.—In London, 2493 bars iron from Sweden, 273 pigs iron from Norway, 30 tons copper ore from Nassau, 60 hogheads tin from Port Phillip, 1902 casks spelter from Prussia.

At Redruth Ticketing, on Thursday, 4404 tons were sold, realising 30,648½ 9s. 6d. The particulars of the sale were—Average standard, 127½ 12s.; average produce, 7½; average price, 6½ 19s.; quantity of the copper, 334 tons 12 cwt. The sale at Truro, on Thursday, will comprise 4689 tons.

At Swansea, on Tuesday, 1669 tons of copper ore will be sold, including ores from Cobres, Berehaven, Knockmahon, Namaqualand, Malaga, Halyford, Tunkillo, and Spanish.

At Liverpool, on Thursday, Messrs. Gibson, Andrew, and Co., sampled five parcels of copper ore (7, 21, 29, 30, and 22 tons), ex Golden Grove, from Marseilles. The first lot contains silver.

At Boscawen Mine meeting, on Sept. 3, the accounts for the quarter ending June showed a balance in favour of adventurers of 1930½ 15s. 6d. A dividend of 720½ (3½ per share) was declared, and a balance carried to credit of next account of 1200½ 15s. 6d. The sales of tin for the three months amounted to 58 tons 11 cwt., which realised 4488½ 7s. 4d. The prospects of the mine continue exceedingly good.

At the Craddock Moor Mine meeting, on Sept. 5, the accounts showed—Balance last audit, 2160½ 1s.; mine cost, 700½ 9d.; 9d.; merchants' bills, 230½ 1s. 5d.; lord's dues, 60½ 15s. = 12½ 14s. 2d.; Ores sold, 939½ 4s. 7d.; carriage, 25½ 5s. 6d.; leaving balance against adventurers, 236½ 14s. 2d. Capt. Henry Taylor reported that he had, during the last two months, discovered a great deal more ore than he had taken away or should be in a position to do to advantage until the winzes were laid to the different levels. The sale of ore last week, to be brought to account at the next meeting, was 125 tons, and he hoped to have the same quantity next sampling.

At Gonnamine Mine meeting, on Sept. 5, the accounts showed—Balance last audit, 214½ 12s. 11d.; mine cost, 846½ 10s. 9d.; merchants' bills, 348½ 11s. = 1410½ 8s. 8d.; copper ores sold (less dues, 81½ 7s. 5d.), 1209½ 13s. 1d.; materials, 31½ 11s. 6d.; leaving balance against adventurers, 196½ 19s. 1d. Capt. Pascoe's salary was increased to 8½ s. per month. A call of 1½ per share was made. Capt. O. Grever and R. Pascoe reported that the prospects throughout were still very cheerful, and that the next sampling were not more than the last it would be for the present dressing—Roors not being large enough to enable them to return all the ore raised.

At North Pool Mine meeting, on Tuesday, the accounts showed—Costs and merchants' bills for May and June, 1241½ 2s. 1d.; balance from last account, 83½ 1s.; ores sold, less dues, 862½ 4s. 6d.; leaving balance against the adventurers, 255½ 17s. 2d.

At Wheal Grylls meeting, on Sept. 6, the accounts showed—Ore sold, 32

At South Crenver Mine, the pay and setting on Friday last went off well. Ten men were employed squaring down the engine-shaft to the 84 fathom level, when the standing lift will be there fixed perpendicularly, under the nose of the bob, and the water brought direct to the adit, at a considerable monthly saving. The 74 adit is still in the cross-course; when through it they expect as good a lode and quality of ore as they had in the 64 level. At present, the lode in the 64 is only 20 in. wide, yielding $\frac{1}{2}$ ton of copper ore per fm. Between the 54 and 64 fm. levels, eight men are working the ground upon tribute. The 44 west is yielding $\frac{1}{2}$ ton per fm., and is likely to open good tribute ground. Thirty tributers are at work, and getting fair wages. The month's sampling, of 79 tons of ore, was sold on Thursday, and 10 tons are at surface towards next sale.

At Gravel and St. Aubyn, the 36 fathom level cross-cut is now only 10 fms. from Williams' lode. The 24 east, on Williams' lode, is worth $\frac{1}{2}$ to $\frac{1}{4}$ ton per fm., with every appearance of improving; the 24 west, on this lode, is 15 in. wide, of good ore. The 12 east, on the same lode, is worth 15s. per fm., this end being 26 fms. before the 24. The winze below the 12, and 5 fms. before the 24 end, is worth 30s. per fm. The lode in the winze below the adit, 5 fms. before the 12 end, is 1 ft. wide, a splendid good lode. There are seven pitches being worked in the 12; five of them average 5s. 6d. in 12, and two of them are in the bottom of the 12, the others being in the back. Altogether, the mine is looking well, and when the lode is out in the 36, the samplings will, no doubt, be greatly increased.

At Great Wheel Alfred, the lode in the 160 fm. level west is producing 10 tons of rich ore per fm. The 170, which is some distance behind the 160, is producing 3 tons of copper ore per fm., and is of so friable a nature that the men are driving it at 25s. per fathom, so that it is nearly all profit. Several of the other ends, going west, are producing large quantities of ore, and it is computed that from 400, to 500, worth is being discovered daily, so that there is every prospect of this mine becoming the richest in Cornwall.

From Hill Bridge Consols, Capt. Spargo's report indicates a great improvement.

At West Wheel Virgin there is an engine now in course of erection, which will go to work in a few days; the prospects of the mine are good.

At Oola Mine, they are raising lead ore of good quality from the western part of the property; the steam-engine now in course of construction will shortly be placed on the mine, and when the water is forced operations will be prosecuted so as to afford remunerative returns.

About 1200 shares in Molland Mine, forfeited at the last general meeting, were sold this week, by tender, at 6d. per share, being the amount of the call due.

The Star Bay State Quarry Company's effects are to be sold by auction, at Trecross, by Mr. Lumley, on Thursday. The machinery and plant are on the most approved principles, and comprise a 20-horse power high-pressure steam-engine and wrought-iron wagon boiler, planing machine, new slate-rubbing machine, 2000 feet of tramway, stock of slates and slabs, &c.

At the Lusitanian Mining Company for Portugal meeting, on Sept. 3, a dividend of 1s. 9d. per share was announced. The directors expressed their regret that they were unable to declare a larger amount, as anticipated in Sept., 1855, but attributed their position to the great and sudden fall in the price of copper, and the inferior quality of the ore shipped having caused a considerable reduction in the realized proceeds of the cargoes which had arrived since that period.

At the Royal Santiago Mining Company meeting, on Wednesday (Mr. J. Taylor, jun., in the chair), a report was submitted as to the present state of affairs, and intimating that a call of 1s. per share would be made. The opinion of the proprietors was taken as to whether they would go on or wind-up, when an unanimous vote was expressed in favour of going on. The proceedings are fully reported in another column.

At the National Discount Company meeting, on Thursday (Mr. C. M. Russell, M.P., in the chair), the Chairman stated that the proceedings were in accordance with the deed of settlement, which required that two extraordinary general meetings should be called, and that the resolutions passed at the last meeting should be taken as to whether they would go on or wind-up, when an unanimous vote was expressed in favour of going on. The proceedings are fully reported in another column.

At the London and Paris Bank meeting of shareholders, on Tuesday, at the invitation of Mr. Wm. Hartridge, resolutions were adopted expressive of the shareholders' opinion that the directors have failed to carry out the objects contemplated in the company's original prospectus, and recommending the dissolution of the undertaking. A committee was appointed to confer with the directors, and the meeting adjourned until the 22d inst.

The St. John del Rey Mining Company have advices to July 18:—Cost for May, 87,174. 1s. 7d.; profit, 738s. 4s. 5d. It is unfortunate that while the produce is low the cost is unusually high. There has been a large consumption of timber and iron for new works. The charge for ratchet rails alone amounts to 1500 rails. The charge which has been made every month, for nearly a year, on account of the wages on the iron pipes finishes this present month. The produce for June is 25,215 cwt., equal to 240,928 lbs. The above produce is very nearly the same as for May, making allowance for the stoppage time being less by $\frac{1}{2}$ days; stoppage working 30 days, average 130 heads; ditto, with 132 heads, 29-32 days; average 130 heads, 25-31 days. The experiment of the running amalgamation of the slimes at the Suanza stamps has not been turning out satisfactory, but is proposed to try it with larger machines. —Morro Velho, July 26: Capt. Hoskins leaves the day after tomorrow for Rio, in charge of 10 boxes, containing 48,571 cwt., equal to 468,531 lbs. of amalgamated gold; nine boxes containing each 4537 cwt. = 43,713; one box, 4537 cwt., 48,572 cwt. July 31: Gold extracted to date, 15,801 cwt., from 1500-1 cwt. of sand, equal to 20 days' stamping, yielding 10-533 cwt. per cubic ft. and from 3052-3 tons of stone, equal to 3-107 cwt. per ton. Stamps working during 20 days, average 130-95 heads; ditto, with 132 heads, 19-85 days. The machinery is working well. We shall now push on the other side, and hope to have it working by the end of the next month—August.

The Imperial Brazilian Mining Association have advices to July 31, of which the following is a summary:—The works in the mine have progressed well during the month. Gibbe's shaft has been completed to Joinville's adit, and the driving of the adit has been resumed towards the Cunha vein. We have also resumed the driving of No. 1 cross-cut, and No. 2 will be opened as soon as possible, which, when completed, will lay open greater quantities of auriferous jacutinga. Harris' engine have been more productive this month; a branch of the main vein has been discovered going into the footwall, and although it was not rich enough for the washing-house, it produced well at the stamps; at the bottom of these steps we have about 4 feet of virgin ground, and the lode in it looks promising. The produce for the month shows a large increase, which we hope will be maintained, amounting to 22,115 cwt. 8 dwts.; 25 lbs. 3 ozs. 14 dwts. gold dust were received, per the Tamar.

The Iberian Mining Company monthly report, for August:—No. 1 Lead Mine: The cross-cut in the San Andre's level has reached the bottom of the lode, about 2 ft. wide, and composed of sandstone, quartz, blende, and spots of lead ore. This level is being driven by three men, at 4s. 1s. 9d. per fm. There has been a distinct change in the country in the San Diego level, the sandstones are coming in, and a few spots of ore have been found. We have found nothing in the 20 fm. drift, which has now been driven 16 fms. entirely in the black shale; I have stopped the drift. The band of black shale (which on all occasions, when met with, has destroyed the lode) is of a very considerable width and thickness; below it, at a considerable depth, lies a sandstone country, dipping from the point where the San Andre's level crosses the lode, and of opinion that the ore will be found in San Diego levels near driving; I am of opinion that the ore will be found in these two levels. The lode has not been so good this month, the yield has been much lower; we have dressed 320 quintals (about 15 tons). —No. 2 Lead Mine: The adit is in 750 ft.; having cut a second feeder of water, the water in the shafts and shafts began to sink immediately, it is now 8 ft. below the bottom of the old shallow adit, and we are fitting up a tackle to explore the works where the old workers were drowned out. There is a fair change of ground in the deep adit, and I consider we must be very near the lode; the water level is rising, and the lode is showing signs. I have nothing new to report on the shallow levels driving near surface. In a westerly direction we are driving through a loose lode towards the main bank, easterly we are cross-cutting from the old works.

The Peninsular Mining Company monthly report, for August:—No. 1 Copper Mine: We have dressed during the month 133 quintals (about 6 tons) of copper ore. —No. 4 Copper Mine: The end driving west in the 23 is worth about $\frac{1}{2}$ ton per fm.; the lode is excessively hard and tight, and we are giving 5s. 10d. per fm. We have risen 8 ft. in the back of the 23, and are about to begin a sink on the 23 to meet it; the shaft is 40 ft. below the 23. As soon as we can complete the rise of the mine between the 13 and 23 we shall be able to stop some good piles of ore. We have weighed in 164 quintals (about 7 tons) of ore. —No. 5 Lead Mine: We have taken water in the old works, and a party of men are sinking on a branch of ore, about 1 in. wide; if it continues it will more than pay cost.

The Castilian Mining Company monthly report, for August:—There is nothing in the way of novelty to report. The rise in the adit is now stopped, as well as the driving in the western ground, which up to the present moment has been intended to be a new lode. The new furnace is ready for work, and we shall probably start it during the month. The stone furnace is without any change worthy of note. The furnace work has gone on as usual; the produce has been 421 quintals (about 19 tons); there has been water enough to produce 80 quintals by the wet process. The Captain's assays give 12 per cent. and 10½ per cent. for the month's work, these I have not yet entirely verified, as I have not yet received all the parcels. I shall soon have the usual number of men at work, and shall then immediately set on with the two furnaces. The experiments on the sulphate ore have not yet been finished, for want of water.

The New Grand Duchy of Baden Mining Company have received advices, dated Munsterthal, near Fribourg, Sept. 8:—On Teufelsdruff lode, in Louisen Mine, the lode is now working on an average about 7 cwt. of ore per fm. —Wilhelm's lode: In the lode driving east the lode is 18 in. wide, worth from 3 to 4 cwt. of ore fm.; the lode in the back of this level will average worth 5 cwt. of ore fm. —Frederick's Level: The lode in the back of this level is worth 7 cwt. of ore fm. In the end driving west from the bottom of winze No. 3, the lode is 16 in. wide, worth 6 cwt. of ore per fm. —Schindler's Lode: The cross-cut from the new lode is completed, and we are now cutting down a piece of ground in the side of the mine, to make it straight for the flat-rods, this will require about a week from time to accomplish, soon after which we shall have all the machinery ready for driving the old shaft below adit. At surface, we have cleared through the greater of the burrow, and old shaft, but cannot yet see the full size of it; we shall, however, push on here, and commence clearing as soon as possible. August samplings computed at 17½ tons. We shall commence smelting on 15th inst.—S. Richter.

From Australia, we learn that the sum total of the gold received at Melbourne by export from the beginning of the year to June 21, was 1,329,874 ozs., and that shipped, 1,516,464 ozs. The shipments of gold to England in the week ending 9, inclusive of that per Royal Charter, were 175,000 ozs. In the week ending 14, the Kent had sailed with 82,000 ozs. for London, and the Joseph Thwait 21,000 ozs. for Liverpool. The Sardinia has also arrived in 75 days from Melbourne, having on board 130 passengers, and 64,000 ozs. of gold, valued at 256,000l. The lode at the diggings had been impeded by the heavy rains, but the yield of gold was nevertheless turned out well. At Forest Creek, 2 tons of quartz had yielded 100 ozs. of gold. A correspondent says:—“During some years past, in the mines of Victoria, the writers never saw a finer looking gold country than exists between Ophir and Honey Creek, both for the simple alluvial operations, and the more complicated machinery required for the quartz reef. The abundance of the quartz is truly astonishing—the quartz reef cropping out on every ridge and every spur.”

About 30,000l. worth of bar silver was sold on Thursday for India, at 5s. 2d. per oz. standard, showing a rise of $\frac{1}{4}$ on the price last quoted.

The South Australian Copper Company have announced that the adjoined general meeting will be held on Oct. 1.

From New Zealand, we learn that gold had been discovered near Nelson, and a lode of copper, at a height of 1800 feet, on the Dan Mountain.

In Foreign Mines, the market has been dull, and in consequence of the unfavourable reports from St. John del Rey, the shares have fallen to 19; Royal Santiago changed hands yesterday at 2; United Mexican, 2½; Pontigbaud Silver-Lead, 9½ to 9¾; Cobre Copper have continued to improve, and the closing price was from 55 to 58.

In the Gold Mining Share Market no business has been transacted during the week, and prices are merely nominal.

In Miscellaneous Shares, the market has improved, and more business has been done. On Monday, shares changed hands in Crystal Palace at 2½, and London General Omnibus at 4. On Tuesday, Australian Agricultural were 26; Berlin Water-Works, 5½; Crystal Palace, 2½; ditto, Preference, 5½; Mexican and South American, 4½; National Discount, 5½; North of Europe Steam, 13½; Peninsular and Oriental Steam, 67. On Wednesday, Crystal Palace were 2½; General Screw Steam Shipping Company, 13½; London General Omnibus Company, 4; North of Europe Steam, 13½. On Thursday, Crystal Palace remained without alteration. South Australian Land, 36. Yesterday, shares changed hands in Canada at 125 and 124; Canada Government 6 per Cent. January and July, (113½ to 113¾); Crystal Palace, 2½ to 2¼; Electric Telegraph, 94½; London General Omnibus Company, 3½; National Discount, 5½; Peninsular and Oriental Steam, 68; ditto, New, 15½; Victoria Government 6 per Cent. Jan. and July, 110½. In Joint Stock Banks, the market has been dull, and quotations are generally low; business was done yesterday in Australasia, at 104½; Bank of Egypt, 11½; Bank of London, 68 to 67; London Chartered Bank of Australia, 20½; London and County, 32½; London Joint-Stock, 32; National Provincial of England, 78; Oriental Bank Corporation, 39½; Ottoman Bank, 9; Union of London, 27½; Unity Mutual, 49. The following quotations are merely nominal:—West Ham Distillery, par to ¼ pm.; Oriental Gas, 1-16 to 5-16 pm.; European and Indian Junction Telegraph Company, ¼ dis. to par; and Acanthian Iron, par to ¼ pm.

For American securities in London, the market has been affected by the dullness pervading the English stock-market; but, although any activity cannot be noted, there is an absence of any pressure. For the various securities of the Illinois Central Railroad there exists a fair demand, the advanced quotations brought by the Canada, for Free Land Bonds of 3 per cent. and Construction Bonds of 1 per cent., having stimulated enquiry.

SHEFFIELD, SEPT. 10.—There is but very little business doing in mining shares at present, and the prices continue depressed. The quotations are as follow:—Bright-steel, 6s. to 6½; Cranford, 4½ to 5; Eym, 20 to 27; Peak United, 5 to 6; Prince of Wales, 7 to 7½.—GEORGE WILSON.

HULL, SEPT. 11.—Our market for railway shares is dull, and there is very little inclination to do business, which is generally the case in a flat state of the market. Hull and Selby, however, form an exception, and of this stock there are generally buyers at full prices.—T. W. FLINT AND CO.

THE COAL TRADE.

The following is a statement of the delivery of coals, &c., in the port of London during the month of August:—

	Ships.	Tons.		Ships.	Tons.
Newcastle	262	79,107	Blyth	3	306
Seaham	90	21,688	Scotch	11	1,411
Sunderland	170	49,767	Welsh	44	13,679
Hartlepool & West Hart.	156	46,399	Yorkshire, &c.	40	3,016
Stockton and Middlesbro' ..	24	5,433	Small coal and cinders ...	5	1,466

Total 805 231,509
Total imported in Aug., 1855 267,982

Comparative Statement of 1855 and 1856.

Imported from 1st January to 31st Aug., 1856 1,968,173 tons.
Imported from 1st January to 31st Aug., 1855 6944 1,948,804

Increase of ships and tons 28 44,369

THE RAILWAY COAL TRADE.

Monthly statement of coal and coke brought by railway and canal within the London district, during the month of August:—

Railways.	Tons cwt.	Railways.	Tons cwt.
Great Northern	54,735 13	Great Western	3,487 0
North-Western	41,358 16	South-Eastern	720 14
Eastern Counties	6,797 13		

Total by railway in Aug., 1856 107,459 16
Coals by railway in Aug., 1855 87,197 8
Coals by canal in Aug., 1855 2,335 5

Comparative Statement of 1855 and 1856.

Coals by railway from 1st January to 31st Aug., 1856 792,048 0
Coals by railway from 1st January to 31st Aug., 1855 662,551 10

Increase in the year 1856—railways 129,496 10
Coals by canals from 1st January to 31st Aug., 1856 15,830 0
Coals by canals from 1st January to 31st Aug., 1855 15,238 8

Increase in the year 1856—canals 591 12

THE IRON TRADE.—The following is a weekly report, to September 9, forwarded to us from Glasgow by Mr. Thomas Edington, showing the principal contracts for rails, castings, and machinery, known by him to be in the Iron Markets of Great Britain and Ireland:—

25,000 tons water-pipes, for the Glasgow Corporation Water-works.
In CHESTERFIELD, DERBYSHIRE.—17 miles water-pipes, for Worcester.
In LANCAIRIE, NEAR WIGAN.—Engines, pumps, and machinery, for Worcester Water-works.

300 tons rails, 150 tons railway chairs, and a quantity of bridge girders, for the Maryport and Carlisle Railway.

50 tons rivets, for Wells, Somersetshire.

A large engine, for London.

A quantity of cast-iron screw piles for bridge piers, on Mitchell's patent, for the Bombay, Baroda, and Central Indian Railway Company.

Gas and water-pipes, for the Bridge of Earn.

Rails and railway chairs for a new line of railway, contemplated from Paris to Tours.

It is also fully expected that a scheme for railways in Russia, on an extensive scale, will soon be introduced to the public, under the auspices of an Anglo-French company.

GOLD QUARTZ CRUSHING—266½ OZS. OF GOLD TO THE TON OF QUARTZ.

As evidence of the advantageous results which must accrue from the introduction of improved machinery into the gold districts of Australia and California, we may allude to the operations of Messrs. Stewart, Robins, and Co.'s machine, at Wattle Gully, Forest Creek, Australia, from which it would appear that capital and machinery were the requisites for conducting gold quartz mining, in that district at least, to a successful issue. At Ballarat, a well-considered plan for saving labour and reducing the chance of sinking “shiclers” to the minimum has been introduced, which will, no doubt, tend considerably to alleviate the existing suffering among deep sinkers, by increasing the chance of securing “a golden hole.” It is reported that two men, named Mackin and Radford, who had had a claim for some time on the Wattle Gully reef, and who, laying up their quartz to be crushed at a future period, whilst they were “gutting” sufficient to pay current expenses, sent two tons of their quartz to be crushed by Messrs. Stewart, Robins, and Co.'s machine. From the perceptible indications the owners expected 20 or 25 cwt. per ton, but as the crushing proceeded, they were gratified to find that the whole mass of quartz was impregnated with gold, and the ultimate yield was no less than 535 ozs. from the two tons of quartz. As the stampers descended, nuggets several ounces in weight were seen; and from the stamper board, after the quartz had been taken from the box, no less than 3 lbs. of gold were cleared by Mr. Stewart, who also scraped from the wheel of the mill in which the quartz was ground flakes of gold as large as half-crown pieces. The following statement, taken from the books of Messrs. Stewart and Co., will prove of interest:—“Victoria Quartz Crushing Machine, June 17: Crushed two tons for Mackin and Radford, of Wattle Gully. Yield of gold:—Amalgamated, 158 ozs.; total yield from 2 tons, 535 ozs.” The quartz operated upon was not selected with any particular care, and the vein from which it was taken lies irregularly, and it is interlined with layers of sandstone. The depth sunk is 40 ft., but it is believed that the permanent reef has not yet been reached. The owners of the claim have still 23 tons to crush, from which they naturally anticipate a favourable return.

LIVERPOOL METAL TRADE.

Particulars of COPPER ORE, COPPER REGULES, BAR COPPER, and SILVER ORE, imported at Liverpool during the month of August, 1856.

Date.	Ship.	Where from.	Copp. ore.	Copp. reg.	Bar copper.	Silver ore.
Aug. 11	San Jose	Cornwall	34			
12	Catrina	Hamburg	53		150 pieces.	
12	T. S. Reeves	London	53			
14	Royal Charter	Melbourne	300			
25	Rapida	Melbourne			190 slabs.	
25	Duchess of Lancaster	Arica and Ilay	520			
25	Thessalia	Constantinople			350 pieces.	
26	Golden Grove	Marseilles	80			
28	Perseverance	Valparaiso	82		200	

LEAD ORES.

Sold on the 5th September.

Mines.	Tons.	Price per ton.	Purchasers.
Tees Side	10	£14 3 6	W. J. Cookson & Co.
Nether Heath	40	14 1 6	ditto

Sold on the 6th September.

Sold on the 8th September.

Kewick	34	£12 15 6	
Value of Towy	37	12 1 0	Panther Company.
ditto	35	11 6 0	ditto
ditto	9	11 2 0	Sims, Williams, & Co.
ditto	14	6 0 0	Panther Company.
Wheal Exmouth	80	12 2 0	Walker, Parker, & Co.
ditto	60	10 0 0	Newton, Keates, & Co.

Sold on the 10th September.

Foxdale	100	£15 8 6	Panther Company.
Cabert United	34	£15 6 0	Walker, Parker, & Co.

Ticketing at the White Horse Hotel, Holywell, 11th September.

Deep Level	50	£13 8 6	Newton, Keates, & Co.
Bodelwyddan	18	13 8 6	Walker, Parker, & Co.
Brynmor Hall	19	14 9 0	J. P. Eytton.
Herward United	14	14 0 0	ditto
Merlyn	5	14 0 0	Newton, Keates, & Co.
Garreg	5	14 0 0	ditto
Park	20	13 6 6	ditto
Gorn	9½	12 12 6	Walker, Parker, & Co.
ditto	3½	0 1 0	Newton, Keates, & Co.
Llanerchraur	9½	14 2 6	J. P. Eytton.
ditto	9½	14 2 6	Newton, Keates, & Co.
Bryn-y-Fedwen	22	14 0 0	ditto
Tyntwil	35	13 13 6	Newton, Keates, & Co.
ditto	10	13 12 6	Walker, Parker, & Co.
Pencraig	19	14 2 6	J. P. Eytton.

BLACK TIN.

Sold during the month of August.

Mines.	Tons c. q. lb.	Price per ton.	Amount.	Purchasers.
Wh. Kitty (St. Agn.)	9 7 1 3	£73 10 0	£ 688 4 10	Williams.
ditto	8 5 0 12	73 0 0	602 12 0	ditto
ditto	1 11 2 3	58 0 0	91 8 6	ditto
ditto	1 3 3 9	58 0 0	69 2 1	ditto
ditto	1 17 2 19	64 2 6	129 15 6	ditto
ditto	0 6 1 23	46 0 0	14 11 11	ditto

Sold on the 29th August.

Sithney Wh. Buller	1 2 0 25	£77 10 0	£ 86 2 0	Chyndour.
ditto	0 5 0 13	56 0 0	14 6 6	ditto
Union Tin	0 13 3 21	—	55 15 0	New Blowing.
ditto	0 0 3 17	—	2 5 1	ditto
ditto	0 0 2 2 9	—	10 0 7	ditto
ditto	0 2 1 19	—	8 11 9	ditto
ditto	0 0 1 23	—	0 19 1	ditto
ditto	0 2 1 20	—	9 11 10	ditto
ditto	0 0 0 20	—	0 8 4	ditto

Sold on the 3d September.

Great Polgoth	8 11 3 11	£71 5 0	£ 612 4 2	Danbuz.
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Sold on the 4th September.

Porkellis United	17 18 3 2	£75 10 0	£1354 7 0	Mellancar.
ditto	6 17 2 4	50 10 0	347 5 6	ditto
ditto	1 14 2 11	24 0 0	41 10 4	ditto

Sold on the 6th September.

West Wheel Virgin	0 13 0 25	£78 5 0	£ 51 7 8	Danbuz.
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Sold on the Mine.

Birch Tor	1 10 0 0	£76 10 0	£ 114 15 0	Calenick Co.
ditto	0 0 0 0	50 2 6	50 2 6	ditto
ditto	0 7 0 0	35 12 6	12 9 4	ditto

COPPER ORES.

Sampled August 27, and sold at Tabb's Hotel, Redruth, September 11.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
West Basset	84	£4 6	Alfred Consols	51	£2 4 6
ditto	80	9 6 6	ditto	20	12 12 6
ditto	70	8 11 0	ditto	8	1 1 6
ditto	69	2 19 6	Rosewarne United	92	8 6 6
ditto	67	4 3 0	ditto	61	5 14 6
ditto	58	8 18 6	ditto	42	6 5 6
ditto	56	5 5 6	Wheal Margery	70	7 6 11
ditto	55	8 11 6	ditto	58	7 6 11
ditto	54	5 2 6	ditto	56	5 11 6
ditto	47	9 4 0	Great Wheal Alfred	66	4 11 6
ditto	28	3 13 0	ditto	36	9 14 6
Carl Brez	71	4 0 6	ditto	20	2 5 6
ditto	67	4 6 0	Boiling Well	93	5 9 6
ditto	53	9 9 0	ditto	44	13 16 6
ditto	51	2 9 0	ditto	26	2 10 6
ditto	49	3 15 6	Levant	48	0 15 6
ditto	44	1 10 0	ditto	46	4 2 6
ditto	43	4 11 6	ditto	23	4 2 6
ditto	41	5 11 6	ditto	23	10 11 6
ditto	33	5 11 6	Halamaning	73	5 5 6
ditto	36	2 8 6	ditto	57	7 11 6
Wheal Buller	87	2 12 6	West Alfred Consols	38	4 1 6
ditto	74	7 4 6	ditto	27	2 15 6
ditto	72	6 17 6	ditto	14	3 15 6
ditto	64	5 0 6	ditto	7	12 8 6
ditto	63	3 18 6	Clijah and Wentworth	52	3 8 6
ditto	61	14 0 6	ditto	32	8 4 6
ditto	46	14 0 6	South Crenver	45	5 1 19 6
ditto	33	2 7 6	ditto	34	4 2 6
North Basset	80	18 5 6	Wheal Unity Consols	40	6 18 6
ditto	63	5 18 0	ditto	24	6 5 6
ditto	45	20 1 6	Carraek Dewa	34	7 12 6
ditto	44	16 11 0	Wheal Anna	56	6 1 6
ditto	40	10 10 6	Treoweth	45	14 18 6
ditto	30	8 10 0	ditto	51	11 16 6
ditto	26	8 10 0	Botalnack	51	8 12 6
ditto	25	27 18 6	West Wh. Providence	34	8 12 6
ditto	16	13 13 6	Wheal Tremayne	14	5 17 6
Far Consols	58	13 6 6	ditto	11	2 4 6
ditto	80	7 6 6	ditto	5	18 2 6
ditto	74	11 11 6	Cook's Kitchen	16	4 18 6
ditto	52	4 7 6	Wheal Agar	15	9 16 6
Alfred Consols	81	12 14 6	Wheal Grenville	15	9 16 6
ditto	77	9 9 0	North Wheal Gible	10	4 17 6
ditto	63	12 12 6	Wheal Guskus	8	3 11 6

THE PROGRESS OF MINING IN 1855.
BEING THE TWELFTH ANNUAL REVIEW.
 By J. Y. WATSON, F.G.S., Author of the *Compendium of British Mining* (published in 1843), *Gleanings among Mines and Miners*, &c.
 A FEW COPIES OF THE REVIEW OF 1855, containing Statistics of the Metal Trade, the Dividends and Per Centage Paid by British and Foreign Mining Companies, and the State and Prospects of upwards of 200 Mines. Also, a FEW COPIES OF THE REVIEW OF 1852, 1853, and 1854, MAY BE HAD ON APPLICATION AT Messrs. WATSON AND CUELL'S Mining Office, 1, St. Michael's-alley, Cornhill, London.
 Also, STATISTICS OF THE MINING INTEREST. By W. H. CUELL.

WATSON AND CUELL, MINING AGENTS (Established nearly 30 years), are always in position to BUY and SELL SHARES IN BRITISH MINES, and OFFER THEIR ADVICE in all matters relating to MINING.
 1, St. Michael's-alley, Cornhill, London.

Notices to Correspondents.

STEEL CONVERSION.—SIR: It is strange that none of your numerous correspondents, on the subject of iron smelting and steel conversion, make allusion to the use and benefit attending the application of peroxide of manganese, which I believe is much adopted by the steel converters in Sheffield. This substance contains more oxygen than any other thing at a similar price, and for the application of which a patent was taken out a few years since. It is a very remarkable fact, in connection with this matter, that upon analysis of the steel converted by this agency, not a trace of manganese is found. Some of your readers may, therefore, be able to explain what purpose this manganese might not be applied with beneficial effect in the process of Mr. Bessemer's—W. M.: *Lombard-street, Sept. 10.*

THE NORTHAMPTON ORE, AND BESSEMER'S IRON-MAKING PROCESS.—SIR: Perhaps some one of your able correspondents may be inclined to inform me what effect Mr. Bessemer's new process is likely to have, or perhaps may have had, on the iron made from the Northamptonshire ore. Is it likely that the purifying of this iron by excessive heat will render it of better quality than it has been supposed hitherto to have acquired?—J. C. W.: *Sept. 10.*

SALT WATER IN A LEAD MINE.—SIR: On visiting the Keswick Mine, Fortinsale, I was surprised to find that the water from the pumps was extremely salt. Is this the case in other lead mines? The mine is on the banks of the Derwent Water, the clearest and freshest lake in Cumberland?—A. B.

REDUCTION OF POOR ORES.—SIR: The acid process is in full operation at Twista, about a day's journey from Frankenberg, where they reduce ores, at a large profit, as low as 1 per cent. The ores that are now being raised at the Frankenberg Mines average 4 per cent., and cost for getting 9s. per ton. The resulting acid is used in the process of the process at Twista—30 tons of acid to act upon the 50 tons of copper ore of the above per centage. Each flask weighs 50 lbs.; price, delivered at Frankenberg, 1s. 6d. per flask. The acid required to produce 1 ton of copper regulus will cost 3s. 1s. 6d. It takes 2 tons of scrap-iron to every ton of copper deposited. Works, to turn out 20 tons of regulus per month, can be contracted for, not to cost more than 600l. The patent for this process has been secured to the proprietors of the Frankenberg Mines.—J. B.: *Cumden-town, Sept. 9.*

TALIESIN MINING COMPANY.—SIR: Can any of your correspondents give me information as to what are the prospects of the Taliesin Silver-lead Mine, Cardiganshire?—A. SHARROLD.

CHENIET'S MORTARS.—SIR: I should like to draw the attention of some of your inventive readers to the want of a suitable substitute for the ordinary mortar used by chemists, and particularly in mixing the various powders, which, with any other small scale,—for instance, in mixing the various powders, which, with any other powder it has a tendency to agglomerate, and the triturating surface of the pestle covers so small a part of the mortar that a very great waste of time takes place. I have an idea that the motion of what are called American washing boards would be something about the mark, the sides curving up, and weight might be placed on the upper surface, and worked by a winch, so as to produce more perfect mechanical mixture.—F. CORNWALL: *Beverly, Sept. 11.*

FOX TOR MINE.—SIR: It is rumored that it is intended to resuscitate this concern under the Joint-stock Companies Act. Could any of your correspondents residing in the neighbourhood, but uninterested in the adventure, furnish me, through your columns, with such particulars upon the prospects of the district as would enable one to judge whether the mine is likely to prove successful or otherwise?—T. T.

THE SUBMERSION OF THE SOUTH TAMAR MINE.—The calamity which has recently occurred at the South Tamar Mine has induced several correspondents to make suggestions to remedy the disaster. Whilst several are inadmissible from their crude nature, and others from their evident uselessness, some deserve, at least, an impartial consideration. The "Bal Captain" suggests the placing of vessels or rafts around the place, then find the perpendicular depth and dimensions of the hole, and drop as many lifts of pumps as may be necessary. Two or three columns must also be placed in the hole to support a platform for the men. When sufficient columns of pumps are fixed and temporarily stayed with guy ropes, or by any other available means, the hole is to be completely filled with some suitable substance; and when all is watertight pumping must be commenced, and proceeded with until the desired effect is produced.

GREAT SHEBA MINING COMPANY.—SIR: The reports from this company will, in future, appear regularly in the usual column, as a special resolution was passed last month directing the captain to send them.

ANGLO-CALIFORNIA GOLD MINING COMPANY.—SIR: We are noted in this county for being hard-headed. Our late respected member, Col. Sibthorp, I believe was one of the 53 members when the *Times*, at the last debate on Protection, stated were obstinate and pig-headed. Sir Henry Vere Huntley states that it is some months since the directors paid anything to his credit at Messrs. Ommanney's, and the mining captain is similarly situated. I was not aware the last named had any accounts with Messrs. Ommanney; but I find by the balance-sheet the following amount charged up to the end of May, under the head of California: Mining expenses and stores, 21,021; labour, 915; loss and lodging (Sir H. Vere Huntley's), 535. I am not aware whether these charges include Sir Henry Huntley's expenses at San Francisco, during the 16 days he was there in April, or the 21 days he sojournd there in May; but the gallant commander has a greater self-denial than I and many of my brother shareholders give him credit for, if he has not secured himself. We have had enough of excuses, delusive promises, and bombast; we do not wish any more elaborate statements to be drawn up; the sum of 65,000l. has been dissipated. Let Sir Henry Huntley meet the board and shareholders, and then and there render up an account of his stewardship. The company is dissolved; the vocation is rescinded; let him then come to England, and justice can then be rendered both to him and us.—G. G.: *Lincoln, Sept. 9.*

FORT BOWEN MINE.—SIR: (Hornsey).—This company must be brought under the Joint-stock Companies Act, 1856; and we are informed that a meeting will shortly be called for that purpose, when the affairs of the company will be considered, and whether it will be advisable to make any alteration in the present constitution.

GOLD EXTRACTION—CANON OF ERRORS.—SIR: Mr. Radley should not have flattered himself with the idea that I had sufficiently temerity to attempt a reply to that catalogue of unintelligible jargon, dogmatically styled, by himself, a "Canon of Criticism." Nor would I now condescend to refer to his egotistic remarks, were it not that he miserably conceals a story relative to the working of my machinery in Australia. He says, "A digger from Ballarat, now in London to find out the best quartz crushing machine, or rather a better one than either Collyer's, Radley's, or Perkins's, all of which (he says) I have proved complete failures in Australia, and can be bought for old metal." Such a preposterous and flagrant untruth cannot pass unnoticed, and will find its perpetrator as unworthy of the consideration of any respectable person in future. The first complete machine was shipped by Messrs. Ransomes and Sims, of Ipswich, for Mr. James McArthur, on board the *Orwell*, which only left London in July last. How, then, it could have arrived in Australia, even at this date, I leave for your readers to determine. I will not allow such a libel to pass with this exposure, but will cause Mr. Radley to produce his "digger." In my case, he has assumed the responsibility of publishing the falsehood, in order more fully to show up the unprincipled defamer and libeller.—R. H. COLLYER, M.D.: 3, Park-road, Regent's-park, Sept. 8.

GOLD QUARTZ TREATMENT.—SIR: In the Notices to Correspondents, in last week's *Journal*, is one from Mr. Stophord Thomas Jones, agent the assertions of which I am dumfounded, as wondering how any man can have the audacity to induce you to print a wilful and intentional falsehood. The specification of this gentleman's patent, as published by the Commissioners of Patents in 1854, has a note appended—*"to wit, 'This invention did not proceed to the Great Seal.'"* Which patent, then, does he mean? As I shall be glad to be informed, before I leave for Port Phillip, having an interest in knowing, "who has the best machine for crushing and treating auriferous quartz." I do not battle with co-inventors to supersede (by any invention of my own) their inventions and patents, but merely and honestly, in the absence and under the want of a good machine and process, to attempt to supply one. If Mr. Jones has one, let him put it out to us.—W. RADLEY, Ch.E.

ON QUARTZ CRUSHING, AND GOLD EXTRACTION.—SIR: I will explain my reasons for having anonymously corrected Mr. Radley's strange chemistry. I adopted this course that my name might not appear in conjunction with that of any of the class who, under pretence of discussing a question, obtain admittance to the columns of your *Journal*, and employ it as a means of puffing their own inventions, and ridiculous pretensions to a knowledge of science, the shadow of which they hardly possess; and who, when their glaring assertions provoke "an inundation of corrections," instead of crying "pardon," employ vulgar abuse as an answer to the facts adduced by those who, from their education and name, are thereby prevented from entering into further discussion with them. It is from this reason that some of the best and most rational communications in your valuable *Journal* are from the pens of anonymous writers: of course exception must be made to such honourable men as Mr. Evan Hopkins and a few others, whose veracity and practical knowledge are undoubted, and well known to your readers. I have, therefore, the pleasure of again signing myself—G. G.: *Kensington, Sept. 8.*

CITY MORALITY.—SIR: It has often been said, *Go to the City*; there you will find business-like habits, men of honour and probity; they are sober and staid men, and by no means liable to the genus called "fast." They are early risers, and always found at their business. Now, Sir, at this time of the town, we proverbially get up late; I must say that occasionally we lose our money at roulette, whist, rouge-et-noir, and now and then spring a little on the turf. A man becomes a defaulter; he is taboed, he is ruined, and no one participates in his fall; the outcry is then raised, and we are called a dissipated, graceless lot. Looking to the East, where we are led to suppose all is honesty, legitimate calculation, and the elements of what used formerly to be business, we find apparent honesty and industry perverted to perpetrating a series of gigantic swindles. I will not occupy your space by dilating on the vast frauds that have been lately brought to light, or the loose way in which the business has been conducted in several establishments. In fact, the lowest card of the stable keeps his book in better order than many of these business-like men have done theirs. There is some honesty yet to be found even on a race-course; but recent events show how little faith is to be placed in names, private or joint-stock banks, as well as insurance or assurance offices. The case of the Unity, if Mr. Baylis is right, shows what evasions board will descend to. Great caution should on all occasions be exercised. The difference between us and the City is this: we ruin ourselves, occasionally plucking a pigeon; whilst there they rob the whole flock, and, after going through the Bankruptcy Court, appear with a greater swiftness than before on "Change." A man who fails for 100,000l. in the City is considered a clever individual; while with us a defaulter for 20l. can never more appear at the exchange, or be again trusted in full.—A. W. FENNER: *Piccadilly, Sept. 9.*

GAS FUEL IN FURNACES.—SIR: Will "Tubal Cain" state, in your next *Journal*, the name and address of the party he terms the original inventor of gas fuel in furnaces, and patented four years since?—CLIO: *Sept. 11.*

SAVING OF FUEL IN LIME BURNING.—SIR: When Mr. Bessemer's scientific suggestions are being tested, for the fusion of iron, I see that the same principle might be applied most profitably in the calcination of lime, for the purposes of agriculture. Probably some of your numerous readers will take the subject up, and show us how to construct a kiln, to effect the saving of fuel in lime burning.—AN AGRICULTURIST: *Richmond, Yorkshire, Sept. 10.*

PLUMBAGO.—SIR: There being considerable enquiry in the City, amongst mining speculators, whether there is a market, and to what extent, for plumbago, and much difficulty having existed in arriving at the truth, I take this opportunity of informing the several enquirers that plumbago can be placed to a considerable extent, that graphite has a limited demand, and that the laminated micaceous iron ore (shaly ore) is comparatively worthless. This being the position of the genuine article, and of the two principal adulterating ingredients, the information given may probably answer every purpose; should further be required, I am ready to furnish the clearest and most reliable evidence, for the purpose of settling the Borlase Mines, in Cumberland, to the London agents, and is sold monthly, by auction, realising from 35s. to 45s. per lb., and upwards. Graphite is of a lead, or iron grey colour, soft to the touch, and staining the fingers of a lead grey hue; it is found in Cumberland, Ayrshire, and many other places. The laminated micaceous iron ore is very common in many iron districts, but more especially in Devonshire.—ANTI-FRACTION: *Sept. 11.*

FORE SHIELDS MINING COMPANY.—SIR: (J. R.) (Islington).—We are informed by our correspondent in the neighbourhood of the mine that it is extremely difficult to obtain reliable information. It can merely be called a "trial shaft," as only two or three men are employed.

"S. L." (Brighton).—It is not possible to please everybody; all are liable to errors of judgment; shareholders should always attend meetings. Where a call was made some few weeks since, although there were upwards of a hundred shareholders in the mine, but two attended; in many instances, the secretary and his clerks constitute the meeting. In order to carry on the mine, they are obliged to make calls; yet, fearful of incurring responsibility, they only make them for present exigencies, without looking to the further development of the property.

WHEAL FRIENDSHIP (St. Helian).—SIR: (A. Z.) (Bath).—We are informed that this adventure is under the superintendence of a practical miner, with a full stock of machinery.

GREAT POLOOOTH MINING COMPANY.—SIR: I attended the meeting on Tuesday, and was rather surprised that, in the present state of affairs, Capt. Puckey should have resigned. It is rather unusual for a captain to desert his ship when sinking. Since the present committee of management have had the conducting of the mine, no exertion has been spared to make it productive; and it is to be regretted that the result has been so unsatisfactory.—A. SHARROLD: *City, Sept. 11.*

MINING IN JAMAICA.—SIR: (G. F.) (Westbourne-terrace).—Several samples of ore have been assayed, and given excellent results; but the only company that have sold ore is the Wheal Jamaica, Messrs. Wilson, Rankin, and Co., of Liverpool, having disposed of two parcels, No. 1, first quality, 24l. 3s. 6d. per ton; and No. 2, second quality, 13l. 5s. per ton.

OAKS COLLIERY.—SIR: As the engineer of this colliery, I shall feel obliged if you will contradict a statement which has recently appeared in your *Journal*, that a change has taken place in the management, by appointing a person over the underviewer, Minto. The pits are now in full work, with the old hands, and no change whatever has been made, or is intended to be made, in the system of management.—JOHN BROWN: *Barnsley, Sept. 9.*

THE MINERS' SMELTING ASSOCIATION.—SIR: I observe in your last *Journal* that "One Interested" expresses his opinion that the miners of Cornwall are ready to support to their utmost endeavour to establish an independent smelting company, to compete with the existing monopoly; and it is asserted in this neighbourhood that the active measures taken by Mr. Hill, of Irwin Hill, of Gray's Inn square, London, have been entirely successful—that gentlemen having secured the co-operation of some of the most wealthy consumers in Birmingham. In the event, therefore, of the carrying out his scheme, there will be no fear of encountering any difficulty in disposing of the manufactured article. Many consider Mr. Hill to be the individual corresponding with your *Journal* under the cognomen of "Young Smelter;" but I am informed, upon the best possible authority, not only that such is not the case, but that as an anonymous communication, which could be traced to Mr. Hill, would entirely shake the confidence of his supporters in Birmingham, and in fact, it is unlikely that Mr. Hill would risk his very enviable position for the sake of a little sympathy. Should the assertions prove correct, there is no doubt but Mr. Hill's undertaking will be successful, and of great advantage to the mining community.—A. MINER: *Redruth.*

ST. JOHN DEL REY MINES.—SIR: The advices from the mines, dated Morro Velho, July 31, 1855, showed—Costs for June, 7717l. 7s. 3d.; profit ditto, 2315l. 4s. 9d. According to the despatches to July 18, 1856, the cost for May was 5717l. 1s. 7d.; profit, 733l. 4s. 5d. The price of shares in Sept., 1855, was 29l.; they are now quoted at 19l. What explanation can the management offer? Surely we have a right to expect some information more than the meagre reports published.—A. SHARROLD: *Buckingham, Sept. 10.*

COLOMBE MINING COMPANY.—SIR: A shareholder.—"We are informed that the prospects are now favourable, and that a substantial plan may be submitted to the existing shareholders to subscribe additional capital for the erection of smelting-works."

"Smelter" (Birmingham).—A small establishment for the working of nickel, at Ringeig, in Norway, has for some considerable period been returning profits. Owing to want of means, the present proprietors have been unable to extend the plant, so as adequately to develop its value. The metal finds a ready sale at Hamburg, and there is a market for the sulphur in the country. Copper of a good per centage has been discovered in the vicinity, and if worked affords favourable indications of making returns. From the reports, it would appear there is abundance of water-power, and the machinery on the works is in perfect order. There are houses for the superintending and workpeople, and the establishment is within a few days' journey from the two important towns of Christiania and Drammen.

GREAT POLOOOTH MINING COMPANY.—SIR: Captain Puckey resigned his appointment as chief captain some months ago; but Mr. Browne continues to act as purser.

WHEAL EMMA (BUCKFASTLAND).—SIR: When Mr. Robbins is questioning the veracity of statements made from time to time by correspondents through your *Journal*, he should be more cautious in stating the truth himself. I notice in his letter, in your *Journal* of Aug. 3, he says, "Although our mine is only about 12 months old," I would ask him what space of years the word "about" gives, or how many 12 months does it add to the mine's age? and how long ago was the cross-cut driven and the lode cut into in the present adit level which he speaks of? and, further, what sort of a lode, speaking truthfully, have they now in the adit end, which he says is driven 90 fms. west? and when did he see a branch of rich grey ore 10 in. wide in the engine-shaft? and how many times has this branch of ore been called for the mine? and how many times has he recollects the beautiful picture made of this lode, when it was called the Macleodite Copper Mine?—A. MINER: *Sept. 8.*

WALLER GOLD MINING COMPANY.—The offices of the company are at Gresham House, Mr. Hudson has returned. Although applications have been made for information, it appears to be a great difficulty to obtain an interview with the secretary, as the time of his being at the office, according to his clerk, is very uncertain.

MINING IN SPAIN.—SIR: An English traveller enquires if those interested in mining adventure are aware of the rich deposits of lead, copper, &c., to be found in the north of Spain. He must have read your *Journal* to very little purpose, if he does not know that these rich deposits have been fully described many years since, and the advantages and disadvantages ably discussed in your *Journal*. Does he know anything of the works of the Asturian Mining Company at Mieres del Camino? Is he aware of the vast amount of British capital that has been engulphed there, on which there has been no return? Does he know that the Asturian Mining Company is not to be denied; there are at present no ports of any note from which it can be exported, and the jealousy of the Spaniards prevents fair play being given to foreign capitalists. I agree with your correspondent, that the system of mining is rude; but, after the useful experience of the Asturian Mining Company, I think English capitalists should pause before they embark in Spanish mining adventure.—THE IDLER IN THE ASTURIAS: *Sept. 12.*

BELEN MINES, NEW GRANADA.—"M. D." (Bath).—These mines are not worked by a company, but are in the hands of a few individuals, who have subscribed the necessary capital. Mr. Tourneur, one of the proprietors, has left England for the mines, with a large quantity of machinery, manufactured by Messrs. Ransomes and Sims, of Ipswich, under the direction of Dr. Collyer. Mr. Tourneur intends to remain some time, to superintend operations.

BEFORD UNITED MINE.—SIR: I shall esteem it a favour if I, as an unfortunate shareholder, through the medium of your *Journal*, can be informed the true cause of the great falling off in the dividends. Is it that the mine is poorer, or has there been any new machinery erected lately, or what is the reason? It is very disheartening to those shareholders who, like myself, bought in at high prices. Or lastly, Mr. Editor, is the mine managed as it should be? I am told we have several agents on the mine, a secretary and directors in London, and a manager in the neighbourhood, who resides at Plymouth, and only visits the mine occasionally. I think, Mr. Editor, our manager should live nearer the mine, and go underground, if capable, and give us some remarks on the position and future prospects of the mine. I hope that our mine does not suffer from the fact of the manager having a dozen mines under his command; but the recent occurrence at the South Tamar Mine makes "a burnt child dread the fire." I hope these few remarks may be the means of eliciting some truthful account of the real position of this property.—A. SHARROLD: *Sept. 12.*

GARDNETT MINING COMPANY.—"An Old Subscriber" (City).—As the works cannot be carried on during the winter, the promoters have determined to delay the commencement of operations until the ensuing spring, and in the meantime they intend to have the necessary machinery made in this country.

MOUNT CARBON MINING COMPANY.—SIR: At the time the debenture bonds were issued, I was induced to take some of them for a debt owing me by the company; I was informed then I should have them at a discount of 50 per cent., and that 7 per cent. interest would be paid. I hear no news of any settlement, and have arrived at the conclusion that the directors, who are the directors, shareholders, and committee of investigation about? I hold some shares which have been purchased at a premium. It is only through your columns we can obtain justice; and I ask you now to render us your valuable assistance.—A. SUFFERN: *Brompton, Sept. 9.* [We have duly reported every meeting; the directors of the company are Mr. Gerald Ralston, Major York Martin, Messrs. Boyd and Ayers; the offices are at Cannon House, Queen-street. The secretary is Mr. Alfred Jeffrey; and there we would recommend our correspondent to apply.—Ed. M. J.]

"A Constant Reader" (Manchester) having commenced legal proceedings against the party of whom he complains, the insertion of his letter is not necessary. Scarcely a week passes, but the advice he suggests is given in the *Journal*.

ANGLO-CALIFORNIA GOLD MINING COMPANY.—SIR: In your *Journal* of Sept. 6, Mr. Coombe, one of the auditors, comments on the remarks made by you in the previous Number, and states, "Your statement is evidently from the directors, or how do you arrive at the conclusion that the liabilities of the directors are 11,000l.?" The answer to this can be easily given. At the meeting, the Chairman stated there were liabilities known to the amount of some 12,000l., but there were probably more, which might increase the amount; what the exact sum was, he had then no means of correctly ascertaining. On enquiry, I found they were somewhat over 13,000l., and in round numbers, calculating contingencies, I returned them to you as some 14,000l., which I find is the expression used.—YOUR REPORTER: *Sept. 8.*

MINING REPORTS.—The report in last week's *Journal*, headed "Lazey Mines," should have been "North Lazey." The report of Mr. Thos. Rosewarne, on "Bedford Consols" was inserted as that of "Buckland Consols."

THE MINERS' COPPER SMELTING ASSOCIATION.—SIR: I am pleased to inform the miners, and the public at large, that the prospectus is now prepared, and, in all probability, will appear as an advertisement in a short time. The capital is fixed at 500,000l. (with power to increase), in 50,000 shares of 10l. each, deposit 1l. per share, to be made on application. It is to be hoped that the capital named will prove not only satisfactory to those immediately interested, but ample for all practical purposes. In the meantime, all letters to be addressed, and applications made, as before, to the office of the *Mining Journal*.—A. YOUNG SMELTER: *Sept. 11.*

WHEAL GURKUS.—SIR: A meeting will be held in the ensuing week. In order to prosecute the workings with vigour, it will be necessary that a further call should be made. We have a good mine, though formerly it was greatly mismanaged; a better system now appears to be inaugurated. Through the medium of your columns, I call on my brother shareholders to attend, and decide upon the operations to be carried out.—T. M.: *Liverpool, Sept. 11.*

ROSEWARNE CONSOLS.—These mines are in the parish of Gwinear, immediately adjoining Rosewarne United. As soon as the steam-engine is erected, and the shaft sunk down to the 30, it is anticipated that the mine will yield good returns of ore.

THE DEVON BORLASE PLUMBAGO MINES.—SIR: I see by an advertisement in your last week's *Journal*, headed as above, that "valuable lodes of black-lead were lately discovered near Bridford, Devonshire;" and by a paragraph in the same paper, a reference is made to the Cumberland black-lead, and the enormous price it realises—3300l. per ton—the conclusion drawn therefrom being that the Devon ore may be expected to realise a proportionate price. Having a sample of the so-called "black-lead" in my possession, I should like to be informed whether any one competent to give an opinion will assert that the ore contains an atom of real plumbago, or whether the substance is not micaceous iron.—THOS. HARVEY: *London, Sept. 11.*

BEFORD CONSOLS.—SIR: In your last publication, under the heading *Notices to Correspondents*, a Mr. Greenfield, of Brompton, questions the fact of our having raised and sold any quantity of copper ore, on account of being "a young mine." The truth is that, when worked as part of Gawton United set, several tons of copper were taken from our middle adit, and sold with the ore they raised, as a matter of course. We are now sinking an engine-shaft on top of the hill, on the grounds of expediency.—C. D. B.: *City, Sept. 12.*

THE MINERS' COPPER SMELTING ASSOCIATION.—SIR: I hope the promoters of this association will not be deterred in their movements, or influenced by the prospects of a rise in the price of copper, of which there is every chance; for in the event of such a thing taking place, it must, as heretofore, be looked upon as only of short duration, and may be done with a view to counteract the proposed new association, which has for its object a more satisfactory and uniform price both for the ore and the metal; therefore, it is necessary to guard against the meretricious acts of the present smelters.—ONE INTERESTED: *Truro, Sept. 10.*

CHANCELLORSVILLE FREEHOLD GOLD MINING COMPANY.—We are informed that the greatest exertion is being used to bring the works at Frodam into full operation.

BRITISH MINE REPORTS.—As many of our correspondents are in the habit of sending reports, dated Monday or Tuesday, on Friday, we are thereby frequently considerably inconvenienced from pressure of matter, when we invariably give preference to the most important, of a more recent date.

WHEAL ZION MINING COMPANY.—SIR: Our shares are at a great discount in the market. The mine, according to all reports, has improved. There must surely be something wrong somewhere, or this state of things would not exist. It has been stated that many of the shareholders, as well as buyers, have no confidence in the management as at present constituted. I have been informed that some of those in the direction traffic in the shares, and, according to their necessities, "bull" and "bear" them at pleasure. This may be considered a proprietary that they should not do, but it is fair and just to the unfortunate shareholders, and it is necessary to state the matter of parties who have the earliest means of information, and use this solely to further their own ends, without any regard to the interests of the general body. At our next meeting, I shall submit some resolutions to the shareholders, and I hope they will agree with me, that no dealers in mining shares should be placed on the committee.—G. P. H.: *Bath, Sept. 11.*

Received—"B. H. and Co.'s" draft for 3l. on London, from "H. B." Boston, on account of "H. B." Ontonagon, Lake Superior, United States.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, SEPTEMBER 13, 1856.

It is of importance at all times, and on all subjects, that hasty conclusions should not be determined, yet in certain stages of the progressive development of the relations of scientific truths it is well that there should be persons who are willing to break through old-fashioned theories, and to advocate the more perfect and higher views of natural phenomena which successive discoveries have revealed with regard to the agency of these powers. Mr. J. W. PERKINS comes forward in this manner, and propounds both interesting and important matter. He gives it as his opinion that the phenomena of voltaic, magnetic, thermal, and animal electricity, arise from the same agency, acting under different circumstances.

The most important application of magnetic induction may be considered, he says, the accumulation of electricity. Few subjects, no doubt, have of late years attracted more attention than electro-magnetism, or the creation and accumulation of electrical currents by magnets, and their application to practical purposes in the arts, either as agents of motive power, or for the reduction of rocks or metals, or as means of telegraphic communication. For several years past it is well known that Mr. PERKINS has made extensive research in inductive electricity by magnetism, the result of which has been that he has found that a powerful electro-magnet can, if properly applied, be made to perform the work of the most difficult and elaborate chemical operations, in the decomposition of metals, metalloids, metalloids, and gases. One of the earliest experiments to determine this was in the decomposition of native sulphate of lime. Mr. PERKINS mentions that he had two cups made from this substance, and each was filled with 60 grains of distilled water, and connected together by a string of fibrous sulphate of lime, a platinum wire from the magneto machine being placed in each cup. The machine was then set in motion, making about 1000 revolutions in a minute, the current of electricity passed through the fibrous sulphate, and effected the decomposition of the cups. In 12 minutes the water in the cup connected with the positive wire became acid, and that in the other cup strongly alkaline; in three hours the acid became moderately strong, and a crust of lime was formed on the surface of the water in the other cup. After the cups were carefully washed and dried under the air-pump, and weighed, the sulphate was determined in the usual manner with chloride of barium, and the lime as oxalate of lime. The sulphuric acid and lime, when compared with the loss which had taken place in the cups, were found to be synthetically correct.

To confirm these experiments, and to determine their general application to chemical research, Mr. PERKINS had recourse, he states, to a number of similar investigations, with double salts and metallic oxides. All were in acid solution, and readily decomposed by the power of the electro-magnetic machine, while the metals were reduced in the metallic state. Other tests were made with a solution of sulphate of alumina and soda. During the process of magneto-electrolysis, small globules of metallic aluminium and sodium were produced, and adhered firmly to the wire. This metal, when acted upon, which it was most violently by water, produced oxides of sodium and aluminium. It appeared that metalloids, metals, and certain metallic oxides, were attracted by negatively electrified metallic surfaces, and repelled by positively electrified metallic surfaces. Now, in pyrites strata, where metals and metallic sulphates are found in contact with each other, or any conducting agent, and where the different strata, in conjunction with the earth's moisture, holding in solution the metallic salts, or saline matters, electricity must at all times be present, contends Mr. PERKINS, and that most, if not all, mineral formations are influenced, or altogether occasioned, by its agency in this manner. In the slow and silent operations throughout the earth will be found the whole economy of Nature, and there can be little doubt, Mr. PERKINS argues, that an extended investigation into the electricity of the earth will tend to show that it is intimately connected with natural formations and transformations. One remarkable fact, almost without exception, is that oxygenised or acid substances are at all times attracted by positively electrified metallic surfaces, and repelled by negatively electrified bodies.

It is, therefore, evident, says Mr. PERKINS, that the repellent and attractive energies are throughout the action communicated from one particle to another, and by this communication is carried on the whole conducting chain of electricity which is transmitted through the various matters. Changes of the electrical equilibrium are undoubtedly at work throughout Nature, and it is this influence which interferes with, decomposes, and affects all the transferences, chemical and mechanical, taking place in the earth. Mr. PERKINS lays it down that there is probably a constant and tranquil series of changes at work, in which the agent is electricity, concerned in producing the whole mineral and metallic strata of our globe. If these changes be slowly yet positively proceeding in Nature, it will suggest itself to an enquiring mind whether or no the great operations of Nature, which are constantly carried on in her laboratory, may not be successfully carried on in a laboratory of more diminutive dimensions, but with increased energy of action. In fact, it is upon these investigations of the great works of Nature that all true philosophy is based, and so long as we strictly follow Nature's laws, and hold them over present before us, the results may be calculated upon with as much certainty as the most simple rule of life.

From such enquiries, as to the application of electro-magnetic agency

South Frances Mine continues at about 360*l*., and from the ore ground recently discovered is considered a good investment. Wheal Basset had a good sale of ores last week, at an average of 7*l*. 16*s*. per ton; the price of shares at present is about 300*l*. North Basset is raising some remarkably rich ore, and laying open good ore ground; shares have sold at an advance. West Seton is expensive in working; the shares are about 250*l*. In Budeger, the hopes of the adventurers are concentrated on the ground which is expected the eastern shaft will lay open; from the appearance of things the lode, some are very confident on this point; the price of shares is about 300*l*. In East Tolgus, shares have declined from 75*l*. to 45*l*., partly because the lode in the 22 east is not so good as when previously reported. At the account last week, a call of 4*l*. per share was made. South Tolgus shares, 135*l*. and upwards. Clijah and Wentworth have fallen to 10*l*. Wheal Grenville, adjoining South Frances, looks encouraging, and it

hoped will yet repay the large outlay and perseverance of the adventurers. At Great Wheel Busy, rapid progress is making in the erection of engine-houses and other buildings, and the clearing of adits. The shareholders and inhabitants of Chacewater are very sanguine as to the results of the working of these important mines. In Great Alfred, a further improvement is reported, and shares have considerably advanced. In South Ellen an important improvement is reported on the flat lode, east of engine-shaft. Stray Park is stated to be looking very well. Wheel Margery sells 184 tons this week; the last two-monthly sale was 169 tons.

Black tin sells at a high price, and several of the tin-mines are selling large quantities. The immense operations at Great Wheel Vor are very expensive, but the mine is looking encouraging, and increasing returns. Pedon-drea is doing well, and in an improving state. Wheel Kitty (St. Agnes) is opening up some good tin ground.

The disaster at South Tamar, by which that mine has been destroyed, recalls to memory the flooding of East Wheel Rose, about 10 years ago, when nearly 40 lives were lost. In connexion with the occurrence at South Tamar, a correspondent asserts, in last week's Journal, that there is not a mining office in the whole metropolis where a correct working plan of any mine is kept. Now you may see, in many account-houses in Cornwall, a working or underground plan of the mine; but it would be a good practice to always mark off, against the bi-monthly meetings, the quantity of ground driven (according to your correspondent's suggestion), with the positions of stopes, pitches, and winzes; and then, the plan being produced, or suspended in the account-house, and the attention of shareholders drawn thereto, it would suggest many questions to be put to the agents, which it would be an advantage to the adventurers to have answered. It is astonishing how little is known by mine adventurers generally, of the underground workings of the mines in which they hold shares. Not that I think the adventurers of South Tamar, if they had had an intimate acquaintance with the workings, would have interfered with them and prevented the accident which has occurred. From all that we hear at present, it seems to have been an accident which no human foresight would have anticipated. Still, the remark holds good, that it would be better for adventurers generally if they knew more of the underground workings of the mines in which they are engaged; they would then have some knowledge on which to ground a judgment of their own, as to the policy of lessening or increasing their interest, instead of acting blindly or rashly on the persuasions of others, and in too many cases becoming the victims of deception.

THE IRON AND COAL TRADES OF STAFFORDSHIRE.

[FROM OUR CORRESPONDENT IN WOLVERHAMPTON.]

SEPT. 12.—Some writers on the iron trade continually find one circumstance or other which gives hopes of a change for the better, and a reason for regarding the depression, which they admit, as temporary and exceptional. In truth, the fact is that while a good demand from America was confidently expected to lead to a brisk trade during the present quarter, that expectation has been completely disappointed. The American demand in this district has not been large; houses of good repute have been working from month to month, and often from week to week, without orders for any time beforehand, and a good deal of iron has been shipped for sale, which is not done when orders are plentiful. The houses of less established repute have accepted far lower rates, and are now selling bars of fair quality at 30s. below the trade prices. Pigs are more plentiful, and a good quality can be had for 4s. whilst sales are effected at still lower rates. Again, coal is cheaper than it was at the commencement of the quarter, and with the abundant supply which Cannock Chase appears capable of yielding, no increase in price is likely to take place during the winter, especially in the quality of coal used at the works.

The only element in the production of iron which remains unchanged is wages, and whether their reduction can be effected is a question which it is difficult to decide, and which must depend upon the general demand for labour. Again, as I have previously pointed out, there has been a great increase in the amount of iron exported during the present year, while our ironmasters have been complaining of the scantiness of orders, a proof that Staffordshire has not had its share during the present year. All these circumstances appear to point to the necessity of a reduction of prices at the next quarterly meeting of the trade, which is now fixed for the 25th instant, at Dudley. Still, many of the first-class men maintain that prices should be kept up, hoping that the excellent harvest in America will enable that country to buy more freely, while the home demand will be quickened by the abundant yield of our own corn-fields. One circumstance favourable to the export trade, is the low rate of freights now prevailing. The following are the present rates offered by respectable brokers in Liverpool:—To New York, 7s. per ton; Boston and Philadelphia, 12s. 6d.; New Orleans, 15s.; Lima, 30s.; Valparaiso, 20s.; Monte Video and Buenos Ayres, bars 17s. 6d., sheets and hoops 22s. 6d.; Bahia, 12s. 6d. to 15s.; Madras, 30s.; Calcutta, 22s. 6d. Several of these rates are 2s. and 3s. 6d. cheaper than they were a month ago. Some of the leading men who advocate a reduction in prices, urge it on the ground that while the leading houses adhere to existing rates, less scrupulous makers are securing the orders which they would otherwise receive. The result at present remains in abeyance.

The general hardware trades of the district show symptoms of decided improvement. Australian orders are coming in freely, and a good trade is expected for spring delivery in America. The excellent harvest, too, is sure to give a great impulse to the home demand, as by reducing the price of bread—the primal necessity—it will afford a margin for other comforts. As an instance, I may mention a circumstance which occurred in a manufacturing town a few miles distant. A woman spent 1s. in purchasing some pomade for the hair, remarking that she had saved 2s. this week from the reduction in the price of bread, and this was the first little luxury she had been able to afford for many months. Multiply this family by millions, and the effect of abundance upon all trades will appear plain.

Mr. Bessemer's invention is still the subject of much discussion, and those who think its pretensions far exceed its real merits are by no means few. A trial made by a gentleman who attended one of Mr. Bessemer's experiments, and who was disposed to think favourably of the process, has proved very unsatisfactory; and he pronounces the iron produced by the new process to be quite destitute of fibrous properties. The great question is, Will iron by this new process, without the mechanical stirring about which takes place in the puddling furnace, acquire that fibrous property which is necessary to fit it for rolling into bars, hoops, or sheets? Many say not; but of these not a few think the invention will facilitate the process, and reduce the expense by saving labour, fuel, and waste of iron. In a letter signed "An Old Ironmaster," who dates from Stourbridge, which appeared in the *Midland Counties Herald* of yesterday, the writer expresses a similar opinion. He says:—"From the published statements attributed to some scientific men, we were led to suppose that Mr. Bessemer had succeeded in producing pure fluid malleable iron of the first quality, and capable of longitudinal and lateral extension; but from the reports which have been given to me by some of the gentlemen who attended his experiment on Monday last, he has by no means succeeded in accomplishing this desideratum; and what was exhibited on Monday must have been entirely different from his previous productions, to justify those assertions which have been given to the public. It appears to me that the iron is nothing more than minutely honeycombed plate metal, of uniform and finest quality, which is not produced by the present application of the blast in the refinery. If I am correct in my opinion, every practical ironmaster must be aware of the great facility which will ensue in the puddling furnace, in converting the metal into the first process of malleable iron; and that probably three-fourths of the time at present occupied in the manipulation of the puddling furnace will be saved, with a consequent diminution of expense in fuel, labour, and loss of yield."

It will be seen from this, that while the writer does not think the puddling process has yet been rendered unnecessary, still he attaches considerable importance to the invention. I hear that another trial will take place to-day, and I hope to be able to furnish you with the result next week. It is highly to be desired that the merits of the invention should be thoroughly tested, as anticipations of a great reduction in the price of iron will tend to keep orders out of the market, which are by no means too plentiful at the present time. Such anticipations may safely be pronounced fallacious. A considerable time will and must necessarily elapse before an invention, doubtful in its results when tried on best pig-iron on a small scale, can be applied to the millions of tons of iron annually produced in this country, so as to affect the price. Doubtless, many mistakes and much loss must be experienced, before the real value of the invention, and the best mode of applying it, is clearly ascertained.

Trials have been made in this neighbourhood of small screw steam-engines for propelling boats on canals, and the result has been very promising. The great advantages of securing such a mode of propulsion

are evident, from the saving of time it would lead to, and the great economy as compared with horses. Paddle-wheel steamers have been found to be objectionable, on account of the injury done to the banks of the canals by the scurf; but by a peculiar construction of the screw, this objection has been obviated. Mr. Inshaw, of Birmingham, has recently made a trial of an engine of this kind on the Coventry Canal, between Fazeley and Atherston. A screw steamer, of six-horse power, was employed and attached to a boat, containing the committee and engineer of the canal company; it proceeded at the rate of nearly five miles per hour. Two additional boats—one laden with upwards of 31 tons of coal, and the other a fly-boat, with 14 or 15 tons on board—were afterwards attached, and proceeded at the rate of three miles per hour, with the greatest ease. The *Coventry Herald*, in describing the results, states that "there was little or no flush of water washing against the banks of the canal and damaging them, as was formerly the case with the old-fashioned paddle-wheel steamer, owing to the fact of the screws of this boat being so constructed that they work in opposite directions, and the two currents produced by them meeting directly behind the rudder, form themselves into a straight line in the centre of the canal, leaving the water at the banks of the canal less disturbed than it is by the ordinary fly-boat, drawn by a horse." The same paper adds, "We were particularly struck with the facility with which the boats passed through the locks, and the uninterrupted course of the train of boats (if we may so term them), there being no necessity for dropping the line on meeting a boat to allow it to pass, as the steamer, by keeping on the outside, carried its boats uninterrupted on. The advantages, too, in passing through a tunnel must be immense, as abolishing the present mode of pushing a boat by 'leggers,' as they are termed, who lie on the top of the boats."

The importance of such an adaptation of steam-power in such a district as this, where canals wind about everywhere, must be very considerable, as they are still, in spite of railways, the most important means of internal transit for heavy goods.

In a report recently presented to Parliament by Mr. Trompeter, that gentleman strongly recommends that all youths employed in collieries and mines, between the ages of 10 and 14, shall be required by law to attend school at least for two hours per week. He finds—as all who take an interest in the subject have done—that youths leave school at 10 years of age, after a brief and usually irregular attendance, lose the small acquirements they had made in reading, writing, and useful knowledge, and grow up perfectly illiterate. Their ability to do so when they leave school is very imperfect. They can only practise these arts with effort, and amongst their own class no inducements or incentives to the perfection of their imperfect acquirements are offered, and so the little medium of instruction is lost, and the labours of the teacher were in vain. The moral benefit of having for four years longer even so brief a space of time as two hours weekly devoted to instruction it is difficult to estimate. If, in addition to this, prizes and certificates of ability were offered to all who reached certain standards of ability, we might expect many a black diamond—whose intellect, chafing at the bonds which ignorance imposes, forces him into strikes and wild political schemes, or the ranks of the scouler—would shine forth in bright lustre, finding language for his thoughts, food for his intellect, and a career for his ambition, honourable to himself and beneficial to the community. The regulation would, no doubt, occasion some trouble to the managers of mines. Will this be sufficient to prevent any colliery proprietors from petitioning in favour of the proposition? Time will show; and if such a petition should be presented to Parliament, I will not fail to note and record the fact.

REPORT FROM YORKSHIRE, DERBYSHIRE, AND LANCASHIRE.

[FROM OUR CORRESPONDENT IN CHESTERFIELD.]

SEPT. 12.—Considering the near approach of the preliminary meeting, and the anxiety which exists with regard to prices, the trade is in a better state than was expected, and a gradual improvement is manifesting itself. The better class of houses find little or no difficulty in meeting with a sufficient number of orders to keep them fully employed. There are complaints of the prevalence of underselling, which has prevailed to a very great extent in Staffordshire, where much fault has been found with the inferiority of the iron sold at the reduced prices. In the Yorkshire districts the trade is making good progress, and in the neighbourhood of Darlington the trade continues to improve rapidly. Within the last fortnight one of the new blast-furnaces erected at Norton, near Stockton-on-Tees, by Messrs. Warner, Lucas, and Barratt, has been put in blast, and another will be ready in a few days. The South Durham Iron Company, at Darlington, are about to build another furnace, making the third, which they intend to complete before the end of the present year. Nearly all the other new furnaces are in blast. The Cleveland Hills are now yielding above 22,000 tons of ore per week, while the hills in the west of the county of Durham supply 2000 per week.

Mr. Bessemer, whose invention continues to make such a noise in the world, was the guest of the Master Cutler at the annual feast in Sheffield. He was very warmly received by the steel and cutlery merchants in the town; and before the guests sat down to the banquet several of the leading firms were in communication with him in the parlour of the Hall. It was the opinion of the merchants that the invention of Mr. Bessemer, as regards what he calls semi-steel, would be an excellent material for railway purposes, in the manufacture of rails, tyres, &c., but in regard to steel it is thought to be much less important, and as at present known it is not expected that it will supersede the existing processes, or materially affect the price. The Duke of Newcastle paid a high compliment to the invention of Mr. Bessemer, which he said would increase the prosperity of the country. As a prospective coalowner, he said he thought some might be dubious of it decreasing the consumption of coal, but he believed that the prosperity it would create in other branches of commerce would more than compensate for any diminution in the consumption. The presence of Mr. Dallas, the American Minister, was thought of much importance by the manufacturers of the town, as tending to unite the commercial and trading interests of Sheffield with those of the United States. On the day following the banquet, Mr. Dallas, in company with the Master Cutler and other gentlemen, visited the principal works, and inspected a great variety of articles of cutlery.

Mr. Bessemer's process has, we understand, been tried successfully at the Consett Iron-Works, Yorkshire. The Derwent Iron Company, who have 16 furnaces in blast, sent one of their firm to be present at the first public experiment of Mr. Bessemer in London, and it is about to be tested at their works. The Butterley Iron Company, Derbyshire, have also tested the process satisfactorily, and have sent a portion of the iron made to a large firm at Sheffield, for experimental purposes.

With respect to the manufacture of articles of cutlery, the Derwent Iron Company are much interested in the new mode of making malleable iron, having many puddling-furnaces and large rolling-mills in connection with their blast-furnaces, and they have received prizes for making large specimens of bar-iron.

The great bill intended for the tower of the new Houses of Parliament was shipped from West Hartlepool on Monday.

A branch of the Stockton and Darlington Railway, of considerable importance to the development of the mineral traffic of the district, was opened on Monday last. It extends from West Auckland to near Shildon. The traffic will be upwards of 10,000 tons per week, and there will be 16 trains per day on each way.

The Midland Railway Company opened their Ripley branch for passenger traffic last Monday: it is about ten miles in length, running parallel with the turnpike-road from Derby to Ripley, and is a single line, but, from the great activity in the coal fields adjacent, it is believed that ere long a double line will be required. Most of the collieries in the district are being extended to meet the increased demand for coal; amongst them, they include the Kilburne, March, and Whiteleys and other collieries. The March and Whiteleys Company, in addition to their extensive works, are sinking in close proximity to the line, a large shaft at Whiteleys, which, it is expected, will be ready for working in a few weeks. The Butterley Company are also opening a large coal field near the terminus at Ripley; two very wide shafts are being sunk in the midst of an excellent bed of coal. The seams of coal there lie very deep, so that, although the sinking is being proceeded with as rapidly as possible, it is not expected that these pits will be got fully to work until the end of 1857. The Butterley Company are constructing a line of rails through their extensive coal fields from the Erewash Valley to join the Ripley branch. When all these works are in full operation they will furnish a large mineral traffic for the new line. The trains are arranged to run three times a day each way.

A special general meeting of the Midland Mining Company was held at the Commercial Hotel, Chesterfield, on Wednesday (Mr. Alsop in the chair), for the purpose of devising the best means for obtaining the additional share capital which had been taken up, but not subscribed. It was agreed that a notice should be sent to the shareholders of the forfeiture of their shares within 14 days, unless the respective amount of the capital be paid. A report was read from the agent respecting the prospects of the mines. It stated that they were sinking to the loadstone; and we understand the company intend to sink further before they commence to get the ore.

The condition of the Mill Town Lead Mines is very favourable.

BESSEMER'S PATENT—PRACTICAL EXPERIMENTS.

The following communication has been addressed to the Secretary of the Society of Arts, from the Royal Arsenal, Woolwich:—

SIR,—It may interest you to hear of a few experiments made on the iron produced by Mr. Bessemer, made according to the process now so familiar to all. First, as to mechanical tests—

1. A mass of iron, about 15 in. long by 6½ square, made from Blaenavon pig, just as it came from the iron mould into which it had been poured, was heated in the scrap forge, and reduced to a conveniently sized "bloom" under a 1-ton Nasmyth's hammer. The appearance of the fracture of this mass before heating was similar to that usually described—viz., crystalline, porous, and of a brilliant lustre.

2. The bloom worked very stiff and rigid, and when sufficiently reduced was passed through the rollers, and made into a bar 2 in. wide by ½ thick. On cooling, the remainder fractured in the operation. Another portion of the same bloom was hammered into a short inch square bar under the same hammer, and when cut hot presented the same result.

3. When cold, the first-named bar, once hammered and once rolled, had a nick cut all round, and was broken short off on receiving a blow from a hammer. The fracture clean, laminated as if the crystals were squeezed by the pressure into horizontal layers; no fibre.

4. The two portions jagged, heated, and hammered into a cylinder of 1 inch dia-

meter; nicked all round, broken with a blow, a clean fracture, no fibre, the first crystalline appearance restored, as if the crystals had been simply pressed back by hammering in a direction contrary to the first.

5. The two portions jagged, heated, and hammered, to the same dimensions, a slight nick made on one side, fractured by a blow, with the same results. Impressions of the fractured ends were taken in lead, and when compared at each fracture, had the same appearance, with no increase of fibre.

6. One portion of the last-made bar accurately turned, and placed in the machine for testing the tensile strain. A portion of the fracture had an oxidised appearance, which portion was the first to give way, and without appreciable elongation. The iron worked harsh and rigid under the hammer, but well and pleasantly in the lathe. My experiments having been generally with cast-iron, I regret not having many with wrought-iron for comparison, but you will easily supply them.

The diameter of the specimens at the line of breakage = 6 in.

The breaking weights are the means of two specimens, except in that by Bessemer's process, one only being tested.

Nature.	Breaking weight in lbs. per square inch.	Elongation before fracture, in inch.	Diminution of diameter of specimen at fracture, in inch.	Remarks.
Magnetic iron ore of Londonderry, Nova Scotia.	66,491	109	123	Fibrous fracture.
Non-magnetic iron ore of Londonderry, Nova Scotia.	59,594	332	199	Ditto.
Magnetic ore of Niatna.	67,003	232	146	Ditto.
Shell ore of Niatna.	61,039	234	204	Ditto.
Bessemer's process (heated and rolled once, heated and hammered 4 times), preserving the laminated appearance to the last.	65,999	113	014	Crystalline, partially oxidised.

CHEMICAL ANALYSIS.—A portion of the ingot, taken before making the bloom, selected with great care from a solid inner portion of the mass, so as to avoid cavities, fissures, or fused portions of oxide of iron, &c., was submitted to examination. No silicon whatever was detected; no trace of graphite, or of uncombined carbon. Combined carbon not exceeding 0.3 per cent. Phosphorus 0.44 per cent. Sulphur 0.056 per cent. A similar result was obtained some months ago from a sample produced by the same process, by Mr. Bessemer, from another description of iron. Blaenavon iron is comparatively free from these last impurities. For comparison, a pig was taken at random from a heap of Blaenavon iron, which yielded to the same treatment the following comparable result:—Phosphorus, 0.48; sulphur, 0.062.

It appears, therefore, that while the uncombined carbon and silicon had been completely removed by the oxidising process (the oxidation being probably almost concomitant), the complete removal of the combined carbon is a matter of greater difficulty, and that the phosphorus and sulphur are but little affected. It would appear that when disseminated in small quantities, in a combined state, through large masses of metal, they are difficult of oxidation, and require longer treatment. It is an interesting question as to how long this treatment may be continued before the mass becomes viscid. In the act of pouring it into the mould, considerable quantities rapidly take up their appearance on the sides of the funnel, as if the tendency of the process was to induce that state. I merely mention this for consideration, and not as supposing the matter is so near complete elucidation that anything definite can be pronounced.

It may be remarked generally that the above results are only applicable to iron treated in one way—i.e., to a certain iron which has remained a certain time under peculiar treatment. Experiments, accurately made, will show whether time is not an important element—that is, when the process must be stopped. As regards the iron made under the above conditions, the experiment is so far useful, if these are recorded. But nothing can be said about the system, as we may be entirely ignorant, as yet, of the true treatment required.—*Journal of the Society of Arts.*

IRON, COPPER, TIN, AND LEAD.

Mr. A. Pope, of Edgware-road, has patented some improvements in the manufacture of iron, copper, tin, and lead, of which we give the following particulars, from his specification:—

IRON.—My invention consists, first, in the improved manufacture of iron. I take hematite iron ore or other ironstone, as free as possible from sulphur; I take 1 ton of the above, and melt the same in a short hot furnace or cupola, with anthracite coal or charcoal and carburetted anhydrous silicate of alumina (the residuum from the distillation of boghead or Torbane coal, or other bituminous shale); of this fuel I use 230 lbs., composed of two-thirds anthracite coal or charcoal, and one-third boghead coke; the silica and alumina combine with the iron ore, without reducing the iron to the metallic state. I take this body so produced, or other similar body, and crush to a coarse powder; I take 1 ton of the above, and mix with 200 lbs. of boghead, broken to a coarse powder; I place the same in a reverberatory or air furnace, and raise the temperature to bright redness, but not sufficient heat to melt the same, with a fuel as free as possible from sulphur; I continue the heat for two hours, stirring the mass at times; during the continuance of the before-mentioned heat, I add 2½ per cent. of spent oxide of manganese. I now raise the heat, so as to produce complete fusion of the whole, and continue it in that state 30 or 40 minutes, during which time the bath must be stirred, so as to thoroughly mix the whole; the slag or scoria should be removed at intervals. I now either reduce the temperature, so as to render the iron pasty for the manufacture of bars, or I run the whole into pigs for after manufacture. I make a more highly carburized iron, by continuing the same process as above, with from 250 to 300 lbs. of boghead to the ton, and continue the first heat two and a half hours, and the second or melting heat, 30 or 40 minutes. I still more highly carbonate the iron so produced by following the same process, and using a larger quantity of boghead—400 lbs. to the ton, and the first heat three hours, the second heat the same as before. Second, I take white or forge pigs produced by the above-mentioned process, or ordinary forge white pigs, or ordinary pig-iron melted and chilled, so as to produce a white iron of a crystalline fracture, and mix the same with ordinary pig-iron, from one-tenth to one-half of the white iron. I take 1 ton of the mixed iron, and melt the same in a cupola, with a fuel composed of anthracite coal, or charcoal, or coke, free from sulphur, and boghead refuse, before mentioned; of this fuel I use 240 lbs., two-thirds anthracite, charcoal, or coke, and one-third boghead, to melt 1 ton. I add during the fusion 2½ per cent. of spent oxide of manganese, and 10 lbs. of limestone, as a flux; this will produce an iron of greater strength than ordinary iron, and of a better colour, suitable for bright work. The proportions of the mixed metals before alluded to should be determined by the purpose for which the iron is required. I use any of the iron produced for the manufacture of wrought-iron or steel, either direct from the air furnace, or by the ordinary process of puddling, and the before-named boghead or shale in the manufacture. I also use the boghead as a fuel for the melting of iron by the ordinary process, mixed either with anthracite, charcoal, or coke, in proportion from one-fourth to one-half boghead, according to what fuel is used.

COPPER.—I take ore as is generally received for smelting; I roast the same, as is usually done in the manufacture of copper; I continue the melted state three hours; at the expiration of the second hour I add to each ton of copper ore 70 lbs. of iron scale, or oxide of iron, or iron slag, or other body containing a sufficient quantity of iron; the iron will combine with a large quantity of earthy matter, and form a scoria or slag, which must be removed; after the scoria has been removed, at the end of the third hour I add to the melted mass or bath 200 lbs. of oxide of iron or hematite iron ore, and 4 cwt. of the anhydrous silicate of alumina, or boghead refuse, or other carburized shale having a similar composition. The oxygen of the iron combines with the yet remaining sulphur, and drives it off in the form of sulphurous gases; the silicate of alumina combines with the iron and other impurities, reducing by the oxide of iron used; the mass should be agitated at times. A very fusible slag will be produced, containing very little copper in the metallic state. I allow the bath to be acted upon by the above-mentioned materials in a full melted state for four hours, when the slag being removed, metallic copper will remain. If the reduction should be found not complete, a second application of the boghead refuse, and continuance of the heat will be necessary; samples should now be taken from time to time, so as to enable the workman to ascertain the progress of the reduction, which, when satisfactory, the slag should be removed, and the copper run into ingots, as is usual. Copper ore vary very considerably in quality; therefore, the proportions must be varied to suit each ore, which proportion the workman must determine by experiment. The before-mentioned proportions are suitable for a sulphuret or ore of copper containing from 20 to 25 per cent. of copper; the fuel used on the grate of the furnace should be anthracite coal, or a fuel as free as possible from sulphur. I melt in a short furnace or cupola with low blast one ton of roasted anhydrous silicate of alumina, or other similar shale; of this fuel I use 200 lbs., composed of two-thirds anthracite coal and one-third boghead refuse; I melt the ore alternately in the furnace, 1 cwt. of ore, 10 lbs. of mixed fuel; I add and equally divide 1 cwt. of hematite iron ore or oxide of iron to the charge; a large quantity of very fusible slag will be produced, which should be either tapped out at intervals, or allowed to run into a receptacle, where the slag can be separated from the metallic copper produced. I refine this copper in a reverberatory or air furnace, using every cwt. of copper 2 lbs. of oxide of iron, and 10 lbs. of boghead; samples must be taken to ascertain the state of the metal produced. Should the slags contain sufficient copper, I crush them and mix with boghead, in bulk equal to one-fourth of the broken slag; I re-melt the slag in a common reverberatory furnace, and continue in a melted state two hours, agitating the mass at times. I take samples for the quality of the metal so produced, from which the workman will determine the extent of the operation.

TIN.—I take ordinary tin ore, as is usually received for smelting; I roast the same, as is usually done, to expel arsenic or sulphur; I mix the roasted ore with boghead refuse, or other similar body, in equal proportions, bulk for bulk; I submit the mixture to a red heat in a reverberatory furnace for two hours, agitating at times; a quantity of slag will be formed, consisting of earthy impurities and iron contained. I now raise the heat to whiteness, and continue one hour, and then I tap the melted mass into a proper receptacle, where it will cool; I then separate the slag from the metal; I take the slags, if found to contain sufficient metal, and crush them to a coarse powder; I mix, in equal proportions, with boghead refuse crushed to a coarse powder, and submit the mixture to a full red heat for one hour and a half; the metal, if any, will be reduced, and can be run into proper moulds.

LEAD.—I take lead ore, as is usually received for smelting, and roast to expel arsenic; I mix the same with two-thirds boghead refuse crushed; I submit the mixture in a reverberatory furnace to a red heat, until the reduction be judged to be completed; a slag will be produced containing earthy impurities and iron; the reduced metal can be run from the slags, as is usually done, leaving a portion of the slag for the commencement of the next charge. I claim the use of boghead or Torbane mineral after the distillation for gas or other purposes, or similar bituminous or carburized shale, either as a fuel mixed with the ore, or as a reducing agent, for the manufacture of metals generally requiring a red heat for their reduction or manufacture.

VALUABLE AUXILIARY POWER FOR MINES.—An ingenious contrivance, in the form of a self-regulating windmill, is now being manufactured, which appears calculated to render great service in many operations connected with mining. Where a constant power is not absolutely necessary, the machine would prove very useful, and for such as sawing wood, filling reservoirs, &c., it will undoubtedly be a great labour-saving machine. The cost is comparatively trifling, whilst when the machine is once in motion, it may be left for months without any attendance.

In the Court of Vice-Warden of the Stannaries.—Stannaries of Cornwall.

By order, W. L. WEBB, Sec. and Purser
11, New Broad-street, London, Sept. 8, 1856.

M^r. R. TREDINNICK requests, in consequence of the numerous applications for past Weekly Circulars, and the correspondence that it necessarily entails, that in future PARTIES WILL APPLY either to the publishers Messrs. Thompson and Vincent, 20, Great St. Helen's, London; or to the *Am. Journal* office, 26, Fleet-street.

IMPORTANT TO RAILWAY COMPANIES, ENGINEERS, CONTRACTORS, MANUFACTURERS, AGENTS, SHIPPERS OF MACHINERY, AND OTHERS.—Messrs. DUNN, HATFIELD, and CO., of the WINDSOR BRIDGE IRONWORKS, PENNELL, NEAR MANCHESTER, have now arranged their works for the MANUFACTURE on a very extensive scale, of Engines, Boilers, Bridges, Tram Tables, Cranes, Pumps, Water Tanks, Switches and Crossings, Tools, and Plant; every description of Machinery for Railways, and Steam Boilers, warranted against explosion; all on the most improved principles, and modern construction.

NOTE.—The only makers and patentees of the low-shelfed traverser; all others are pirates of the original patent.

Messrs. DUNN, HATFIELD, and CO. have now ON HAND ready for delivery, and at exceedingly low prices, the following goods:—

ONE 70-horse CONDENSING ENGINE (Bodmer's Patent), a splendid piece of mechanism; cylinder 30 in. diam., with two pistons working in same cylinder, each having a 4 ft. stroke, very strong, and stands on independent framing. Also, excellent double-acting force pump, with brass cast ram, 8 ft. 6 in. long, with valves, seatings, &c., to suit the above engine.

THREE 16-horse (nominal) HIGH-PRESSURE HORIZONTAL ENGINES, cylinders 14 in. diam., 2 ft. 6 in. stroke, fitted with governors, throttle valves, wrought-iron crank, shafts, &c. Two of these can be coupled.

TWO 20-horse (nominal) HIGH-PRESSURE HORIZONTAL ENGINES, cylinders 16 in. diam., 2 ft. 6 in. stroke, fitted with governors, throttle valves, and wrought-iron fly-wheel shafts. N.B. Can be coupled.

ONE 6-horse (nominal) HIGH-PRESSURE HORIZONTAL ENGINE, cylinder 9 in. diam., 18 in. stroke, fitted with governor, throttle and stop valves, and wrought-iron fly-wheel shaft.

THREE 16-horse (nominal) HIGH-PRESSURE HORIZONTAL CYLINDER ENGINES, cylinders 14 in. diam., and 2 ft. 6 in. stroke, fitted with governors, throttle valves, feed pumps with brass ram, and fly-wheel shafts. Two of the above are coupled.

ONE 5-horse (nominal) HIGH-PRESSURE TABLE ENGINE, cylinder 8 in. diam., and 30 in. stroke, with fly-wheel and shaft.

ONE 8-horse (nominal) HIGH-PRESSURE VERTICAL ENGINE, cylinder 10 in. diam., and 20 in. stroke, with governor, throttle and stop valves, fly-wheel and shaft.

ONE 5-horse (nominal) HIGH-PRESSURE VERTICAL ENGINE (independent framing), cylinder 7 in. diam., and 19 in. stroke, with governor, fly-wheel shaft, and feed pump.

ONE 65-horse MULTITUBULAR BOILER (Rosa's Patent), length 24 ft., 6 in. 9 in. diam.; fire flues 10 ft. 7 in. long, 7 in. diam.; 14 tubes 2 in. diam., furnished with furnace, and about 16 tubes weight altogether.

TWO PATENT FIRE-BOX BOILERS, one 15 ft. and the other 16 ft. long, 6 ft. diam., and 30-horse power respectively, two flues in each 19 in. diam.; one cylindrical fire-box, 6 ft. long by 5 ft. 6 in. diam. outside, and 4 ft. 6 in. diam. inside; the other cylindrical fire-box is 5 ft. long, and 5 ft. 6 in. diam. outside, and 4 ft. 6 in. diam. inside; the 15 ft. boiler has a dome on top, 3 ft. 6 in. high by 2 ft. 6 in. diam., proved to 80 lbs. on the square inch.

ONE HYDRAULIC WHEEL FORGING AND CHAIN TESTING MACHINE, will take up to 1 1/2 in. chain, and exert a force of 100 tons at the wheel forcing end; ram 7 1/2 in. diam.; brass pump 1 1/2 in. diam., with preparation for moving ram backwards and forwards with the same pump. Each end can be worked separately.

TWO HYDRAULIC WHEEL FORGING MACHINES, for forcing railway wheels on and off their axles, with brass pump, tension rods, cross heads, pulleys, &c.

ONE LARGE HYDRAULIC PACKING PRESS, 9 in. ram; and two brass pumps, 1 1/2 in. and 1 in. diam. respectively, made by Messrs. Fawcett and Preston, Liverpool, will take in 9 ft. 6 in. by 6 ft. 10 in., balance weights, &c. In very good condition.

ONE BOTTOM TRAVELLING CRANE, to lift 8 tons 18 ft. high, to suit a gauge of rails 24 ft. 3 in., consisting of strong cast-iron frame, hoisting gear, &c.; cast-iron travelling carriage, gearing, fixings, and wheels, &c.; wrought-iron block, two sheaves, cast-iron angle brackets, pedestal, &c.

SIX 3 tons (wood) WAREHOUSE CRANES, to suit 14 ft. 6 in. height of beam, and 10 ft. 3 in. radius, with cast-iron top and bottom sockets, jib head, fixing and pulleys, gearing with three motions for lighter weights, &c.

TWO CAST-IRON SIDING TURN TABLES (wood top), 12 ft. diam., with foundation rings and chairs, for 4 ft. 8 1/2 in. gauge.

ONE PAIR OF 3 and 4-shaft BLOCKS and SNATCH BLOCKS, to lift 30 tons. The frames are made of the best Staffordshire iron, and the books of hammered scrap iron.

TWO PAIRS OF 3-shaft BLOCKS (wrought-iron), to lift 10 tons.

ONE 10 tons SNATCH BLOCK, for 3 in. chain.

NINE PAIRS OF 3 tons SNATCH BLOCKS, 7 in. pulleys.

FOUR PAIRS OF 4 and 4-shaft BLOCKS, to lift 3 tons, wrought-iron.

(All the above blocks are of the best materials, and warranted.)

ONE WHEEL CUTTING MACHINE, with division wheel; geared headstock for cutting nuts or other work; a set of change wheels, in good condition.

TWO POWERFUL DOUBLE GEARED DOUBLE BORING AND DRILLING MACHINES, for boring two carriage wheels out at one time, will bore up to 12 in. diam., and 2 ft. 6 in. deep, bed between pillars 8 in. 3 in. by 3 ft. 6 in. wide.

ONE VERTICAL PLANK OR LOG SAW FRAME, to cut 19 in. deep by 15 in. broad, 2 ft. stroke, with feed motion, crank shaft, and connecting rod, &c.

ONE SCREW BOLT MACHINE, with taps and dies for all sizes, from 1/2 to 1 1/2 in. diam. 3 ft. 2 in. diam., for 4 ft. 8 1/2 in. gauge. (Note.—The patentees not having time to carry out the above patent, are desirous of selling or licensing on equitable and liberal terms.)

THREE ROUND CAST-IRON SMITHY FORGES, with two blast-pipes for wheel making, with two compartments, one for water and the other for blast; two pipes and valves to each for fan blast.

FOUR large PORTABLE CAST-IRON SMITHY FORGES, for general work, can also be worked with bellows.

THIRTY ONE PAIRS OF excellent LOCOMOTIVE DRIVING WHEELS, 8 ft. 2 in. diam., 6 in. wide, 5 1/2 in. journals, to suit 4 ft. 8 1/2 in. gauge.

ONE PAIR OF PATENT LOCOMOTIVE WHEELS, 3 ft. 4 in. diam., 5 in. axle, to suit 4 ft. 8 1/2 in. gauge.

ONE 13 ft. WROUGHT-IRON SIDING TABLE, to suit 4 ft. 8 1/2 in. gauge, with foundation rings and chairs.

ONE 11 ft. ditto ditto ditto.

ONE 12 ft. CAST-IRON TRAVERSER, 4 ft. 8 1/2 in. gauge.

ONE 10 ft. CAST-IRON HOPPER TRAVERSER, 4 ft. 8 1/2 in. gauge.

ONE 15 ft. WROUGHT-IRON TRAVERSER FOR CARRIAGES, with spiral hinges at both ends, and three sets of wrought-iron wheels to run on three tramways.

ON SALE.—ONE 6, ONE 10, ONE 15, and ONE 20-horse HIGH-PRESSURE ENGINES, quite new and complete.

ONE 4-horse PORTABLE ENGINE and BOILER, nearly new, mounted on wheels.

TWO 25-horse COUPLED CONDENSING BEAM ENGINES and TWO BOILERS, complete.

ONE 30-horse CONDENSING ENGINE, as good as new.—Apply to W. J. MOYLE, consulting engineer and machinery agent, 23, Pall Mall, Manchester.

FOR SALE.—A VALUABLE UNOPENED COAL FIELD.

WANTED.—A PARTNER in a COLLIERY, to advance £1500 capital.

(All the above are in the Forest of Dean.)

TO BE LET.—An EXTENSIVE COAL FIELD and a SMALL COLLIERY in Carmarthenshire.

For particulars, apply to Mr. JOSHUA RICHARDSON, C.E., Neath, South Wales.

IRELAND.—COUNTY OF GALWAY.—TO MINING COMPANIES.—TO BE LET, ON LEASE, the property of Capt. O'Hara, the KUALITIES OF TOWNLANDS MOYVOYNE and AUGHRAN, on which a valuable rich VEIN OF LEAD has been discovered. The lands are two miles from Doughtard, and twelve from Galway, to which there is a railway from Dublin.—For particulars, apply to JAMES BELL, Esq., Ard Carne, Ballinasloe.

GLAMORGANSHIRE.—FREEHOLD MINERAL PROPERTY.

FOR SALE, BY PRIVATE CONTRACT. ALL the several VEINS of highly BITUMINOUS COAL lying under the FARM of YSTRAD-1884, in the parish of SWANSEA, together with the said FARM, which consists of about 120 acres of ARABLE LAND, now let to a respectable tenant. The property contains four veins, of the thickness of 3, 4, 5, and 6 ft. respectively, and is adjacent to the South Wales Railway, which passes on the west and south sides of it. Some of the veins are worked by collieries now in full operation on the adjoining properties.—For further information, apply to Mr. W. LEVISON, Neath, Glamorganshire.

TO IRON SHIPBUILDERS.—TO BE SOLD, BY PRIVATE CONTRACT. ALL those valuable and extensive PREMISES, lately occupied by Messrs. Coutts and Parkinson, situate at WILLINGTON, near Newcastle-on-Tyne, with the necessary MACHINERY and APPLIANCES for carrying on an extensive business in IRON SHIPBUILDING. The premises possess a large river frontage, and offer in every way a most favourable opportunity for commencing the above business, for which the Tyne has now established a reputation equal to that of any port in the kingdom.—Further particulars may be had on application to Mr. P. H. STANTON, solicitor, Newcastle-on-Tyne.

IRONWORKS IN CUMBERLAND TO BE DISPOSED OF.—TO BE SOLD, OR LET, the FREEHOLD FORGE and ROLLING MILL, called the DERWENT IRONWORKS, on the South Pier of Workington Harbour, and within a few yards of the Stations of the Whitehaven Junction, and Cockermouth and Workington Railways, from which, and by steamers from the Ports of Whitehaven, Workington, and Maryport, daily communication may be had with all parts of the kingdom.

These valuable premises contain a complete SET OF ROLLS for PUDDLED and FINISHED IRON, SHINGLES, HAMMERS, SHEARS, &c., worked by a powerful steam-engine, and are capable of producing from 50 to 70 tons of bar-iron weekly.

Coals of a superior quality are raised in the immediate neighbourhood, and can be laid down in the works at moderate prices.

Messrs. Smith and Co., from Northampton, have recently put into blast the furnace at the Seaton Ironworks, about a mile distant, where they smelt the hematite ore of the district, from which works there is a railway to the harbour, and from which pig-iron of a superior quality may be had.

For further particulars, apply to Messrs. WILLIAM BIRD and Co., iron merchants, Glasgow, Glasgow, or Newcastle; Messrs. EWAN and ALD, accountants, Glasgow; or to PETER CAMERON, Whitehaven.

STEAM PUMPING ENGINE FOR SALE. on Simon Patent

Combined principle, 22 in. and 40 in. cylinders, 8 ft. stroke, equal beam, with 8 tons boiler, &c., in good condition, lying near Hayle, Cornwall.—For further particulars, apply to Mr. THOMAS FIELD, 2, Crown-court, Threadneedle-street, London.

SPIKES AND FISH BOLTS.—Prices and detailed information, with respect to HOPPER'S PATENTS and IMPROVEMENTS in SPIKES and FISH BOLTS, will be forwarded on application to Mr. Geo. HOPPER, Houghton-le-Spring Ironworks, and Britannia Ironworks, Fence Houses, Durham. Thousands of tons of the above have been made at these works during the last ten years, for most of the principal railways in England. A liberal allowance to exporters and commission agents.

PATENT OFFICE.—Messrs. WISE and CALLEN, CONSULTING ENGINEERS, No. 23, PARLIAMENT STREET, WESTMINSTER, ASSIST INVENTORS in arranging and working out their improvements, and TRANSACT ALL BUSINESS relating to BRITISH and FOREIGN PATENTS. Working and finished drawings prepared. Specifications drawn and revised. Capital procured for inventions of merit.

PRELIMINARY ANNOUNCEMENT.

TO ENGINEERS, IRONFOUNDERS, MACHINE MAKERS, AND OTHERS.

MR. WHEATLEY KIRK respectfully announces that he is instructed to SELL, BY AUCTION, on Monday, the 22d September, 1856 (unless previously disposed of by private contract, of which due notice will be given), on the premises of the Britannia Foundry, Horse-street, Great Ancoats-street, Manchester, all the WORKING PLANT, UTENSILS, MOULDING BOXES, ENGINE, BOILER, &c. Full particulars in next week's papers.

Auctioneer's Office, Cross-street Chambers, Manchester.

PRELIMINARY ANNOUNCEMENT.

BANK QUAY FOUNDRY, WARRINGTON.

MR. WHEATLEY KIRK is instructed to SELL, BY AUCTION, early in October next, the WHOLE of the exceedingly valuable TOOLS, UTENSILS, MACHINERY, GUN MILLS, STEAM-ENGINES, BOILERS, &c., on the premises. Further particulars in future papers.

Auctioneer's Office, Cross-street Chambers, Manchester.

BY PRIVATE CONTRACT, A SPLENDID NEW 16 in. DOUBLE GEARED SELF-ACTING SLIDE AND SCREW-CUTTING LATHE, with compound slide rest, self-acting motion, cast-iron bed 20 ft. long, screw whole length, with screw keys, &c.—WHEATLEY KIRK, Cross-street Chambers, Manchester.

FIRST CLASS NEW SHAPING MACHINE, on the most modern principle, with quick return 15 in. stroke, and all self-acting motions. WHEATLEY KIRK, Cross-street, Manchester.

TO CHAIN AND ANCHOR-SMITHS, ALKALI MANUFACTURERS, SHIP-BUILDERS, AND OTHERS.

FLINT FORGE AND MALLEABLE CAST-IRON FOUNDRY, &c.

MR. ORMISTON WILL SELL, BY AUCTION, at the Royal Oak Inn, in the town of Flint, on Thursday, Sept. 13, 1856, at three o'clock in the afternoon, in the following or such other Lot or Lots, as may be decided upon at the time of sale, and subject to conditions to be then produced:—

Lot 1.—All those important and well-situated business premises known as the FLINT FORGE, comprising (as they now stand) two high-pressure steam-engines, of 25 and 10-horse power respectively, with two cylindrical boilers and fittings attached; hammer helve, trains of roughing and bar rolls, with holsters and couplings complete; shears, straightening block, floor plates, &c.; two puddling and one charcoal furnaces; a blowing cylinder, with receiver, pipes, and cupola.

The portion of the works adapted to the manufacture of malleable iron castings includes crushing-mill, with 16 in. rolls; melting pot and annealing furnaces; moulding, casting, and crucible shops; warehouse, smiths and carpenters' shops, &c.; office and store room.

And also all the YARD lying between the Forge and Flint Castle, and abutting on the Cop of the River Dee, well adapted for a timber yard and shipbuilding purposes. This lot is held under long leases at moderate ground rents, and from its position on the River Dee, and contiguity to the Chester and Holyhead Railway, is admirably situated as business premises.

Lot 2.—All that MESSUAGE or DWELLING HOUSE, situate at Castle Hill, with the walled garden and yard belonging thereto, in the occupation of Mr. Brown. Several tons of coals, Stourbridge clay, gravel, iron, and wood patterns, old metal tools, &c., will either be sold by auction, or may be taken by the purchaser of the works at a valuation, as may be determined upon, or the proprietor will sell off separately the whole or any portion of the steam-engines, machinery, or tools, if a reasonable offer is made for the premises.

Further particulars may be had on application to Messrs. PORTS and ROBERTS, solicitors, Chester; Mr. GATLEY, solicitor, 19, Coleman-street, London; Mr. JOSEPH HOWELL, Hawarden; or to the auctioneer, St. Asaph.

Wigfair, St. Asaph, Aug. 1856.

MESSRS. DAWSON AND KNIGHT WILL SELL, BY AUCTION, at Garrway's Coffee House, Change-alley, Cornhill, London, on Tuesday, the 23d day of September, 1856, at One o'clock precisely, in One Lot, ALL that MINING PROPERTY known as the PERRAN AND GREAT WHEAL LEISURE UNION MINES, situate in the parish of Perranabuloe, in the county of Cornwall, together with the ENGINE-HOUSES, STACK, and BOILER-HOUSES, and other useful and requisite BUILDINGS, with the PLANT thereon, including one 50 in. cylinder steam-engine, and four boilers, complete; one 24 in. cylinder (double) winding engine; and all other the MACHINERY and MATERIALS now on the said mines, comprising all that is necessary for effectually working and carrying on the said mines.

These mines are held on leases from His Royal Highness the Prince of Wales and Duke of Cornwall, the Right Hon. Viscount Falkland, John Samuel Enys, Esq., and John Oates, Esq., and others, and have been worked only about four years, during which period the adventurers have expended thereon about £33,000. All the machinery and materials were purchased new, and they are now in a good and substantial state of repair.

These extensive mines and the materials and machinery are offered in One Lot, to give capitalists an opportunity of obtaining a property which they may at once proceed to develop.

May be viewed at any time previous to the sale, on application at the mines; to Capt. JOHN TOSKIN, of Pool, near Camborne, and Capt. CHAS. THOMAS, of Dolcoath Mine, the agents of the mine; to the auctioneers, at their offices, Mortimer-street, Cavendish-square; or to the secretary, at the offices of the company, 33, Broad-street-buildings, London. Particulars and conditions of sale may be obtained on application to Mr. ARUNDEL ROGERS, solicitor, 33, Old Jewry, London.

VALUABLE FREEHOLD AND MINING PROPERTY.

LAMERTON, DEVON.

MESSRS. DAVIS, SON, AND VOSPER, WILL SELL, BY AUCTION, at the Easter Inn, Tavistock, on Friday, the 3d day of October next, at Four o'clock in the afternoon (unless previously disposed of by private contract, of which due notice will be given), subject to conditions to be then read:—

Lot 1.—ALL that valuable FREEHOLD ESTATE (exonerated from the tithes of corn and hay), called WOODMANSWELL, containing 90 A. 1 s. 15 p., or thereabouts (be the same more or less), with THRIVING TIMBER and COPPICE thereon; situate on the high road leading from Tavistock to Lydford, in the parish of Lamerton, Devon, a dry and healthy part of the country, and about six miles from Tavistock, and nine from Okehampton, two good market towns, and now in the occupation of Mr. John Veale, under a lease for 14 years, determinable at seven, from Michaelmas 1852. There is a good dwelling house on the estate, with all necessary offices and suitable outbuildings. This estate presents an unusual opportunity for investment, as, independent of the beauties of the scenery (being within a very short distance of the celebrated Lydford Cascade), and the richness of the surface, no doubt is entertained of the mineral value of the sub-stratum, as some years since a mine was opened with every prospect of success, which is shown by the fact of 11 tons of rich copper ore having been produced from a shaft about 7 fms. deep, and which sold at £10 per ton. The mine, however, was ultimately abandoned by the adventurers, from the want of funds to carry out the necessary operations. This valuable mine was known by the name of Wheal Susan; and there is little doubt but that with a small capital, judiciously expended, a handsome return might be made.

Lot 2.—ALL that THRIVING OAK COPPICE, called WATERVALE and PRES-COMBE WOODS, containing 5 A. 0 s. 2 p. (be the same more or less), adjoining the above, also freehold (exonerated from the tithes of corn and hay), and which will be sold either separately or with Lot 1, to suit the convenience of purchasers. The timber and coppice to be taken at a valuation, in the usual way.

Mr. John Williams, on the premises, will show the property; and plans and reports of the mine may be seen, and all further information obtained of Mr. HENRY COWLAND, solicitor, 14, Lincoln's Inn-fields, London; or at the offices of Mr. JOHN D. WEEKES, solicitor, Tavistock, Devon.

Dated Tavistock, Sept. 9, 1856.

CHEADLE, STAFFORDSHIRE.—TO COPPER, BRASS, AND SPELTER MANUFACTURERS, AND MILLWHEELS.

MESSRS. EDWARDS WILL SELL, BY AUCTION, at the Royal Oak Inn, Cheadle, in the county of Stafford, on Friday, October 3d, 1856, at Three o'clock in the afternoon, subject to conditions to be then produced, the undermentioned valuable FREEHOLD PROPERTY, situate at the Brass-Works, near Cheadle, in the county of Stafford, in the following or such other lots as may be agreed upon at the time of sale.

Description of property. Quantities.

1 A close of land, called the Slang 0 0 34

2 Garden 0 0 17 1/2

3 Ditto 0 0 8 1/2

4 Ditto 0 0 10 1/2

5 Ditto 0 0 16 1/2

6 A close of land, called Stable Field, in the occupation of A. Blagg, Esq. 1 1 9 1/2

7 A dwelling-house and garden, in the occupation of Widow Hall 0 1 10 1/2

8 All those extensive and commodious copper and brass works, with water, crushing-mill, melting-house, washhouse, charcoal-house, pot-chambers, and large warehouses, blacksmith's shop, and other conveniences; also two workmen's cottages; the whole including the extensive yards, &c., containing 2 2 29 1/2

(* Total 4 s. 2 r. 19 p.)

9 All those valuable and extensive copper and spelter smelting-works, with roaster, furnace, and other conveniences, and possessing the advantage of a chimney-shaft of great elevation, commanding an immense draught for the furnaces; also various buildings, and two workmen's cottages; containing, including the extensive yards (as now stacked out) 4 2 10

10 A genteel dwelling-house, with convenient out-buildings, and garden fronting to the turnpike-road from Rione to Cheadle, in the occupation of Mr. John Keys (as now stacked out) 0 3 8 1/2

11 A close of excellent pasture land, called the Riddings, having a considerable frontage to the turnpike-road from Rione to Cheadle ... 3 3 0 1/2

(* Total 4 s. 2 r. 8 p.)

12 Oiler-bed 0 3 4 1/2

13 A close of excellent meadow land, called Berridge Field 3 1 3 1/2

14 Plantation 0 0 22 1/2

15 Dwelling-house, carpenter's shop, stable, and garden, fronting to the said turnpike-road from Rione to Cheadle, in the occupation of William Inskip (as now stacked out) 0 1 11 1/2

(* Total 4 s. 2 r. 7 p.)

Lot 1.—Is well situated for building purposes.

Lot 2.—Affords a good site for the erection of a silk or other mill requiring a large number of hands, which might be obtained at moderate rates; part of the buildings on this Lot might if desired be converted into cottages at a small expense. The present affords a favourable opportunity for entering upon the business of a copper and brass smelter, which has long been carried on at the works now offered for sale.

Plans of the property may be inspected at the place of sale, at the office of Mr. CHARLES SMITH, jun., Land Surveyor, Alton, near Cheadle, and at the office of Messrs. WARD, SON, and COLLIS, Solicitors, Newcastle-under-Lyme, from either of whom further particulars may be obtained.

VALUABLE MINING PROPERTY AT BUCKNALL (in the immediate vicinity of the Staffordshire Potteries).

MESSRS. EDWARDS WILL SELL, BY AUCTION, at the Railway Hotel, Stoke-upon-Trent, on Tuesday, the 16th day of September next, at Five o'clock p.m., subject to such conditions of sale as shall be then declared, a compact FREEHOLD ESTATE, situate at Bucknall, in the parish of Stoke-upon-Trent, in the county of Stafford, called the BLAKELOW FARM, consisting of a substantial FARM-HOUSE, with suitable OUT-BUILDINGS, and divers CLOSURES of ARABLE and GRASS LAND, lying near to and surrounding the same, in the occupation of Thomas Colclough; and several detached fields, in the holding of Joseph Scragg and Josiah Kirkham; containing altogether 92 acres, or thereabouts.

This property contains many valuable SKAMS OF COAL and IRONSTONE, including, among others, at moderate depths, the Bowling-alley, Holly-lane, Sparrow Butte, and Cockshead Mines, the latter of which has been proved, and the whole of which mines are now worked in the surrounding districts.

The turnpike-roads from Stoke-upon-Trent to Leek, and from Hanley to Bucknall, which pass through the property, give easy access to two of the principal pottery towns, about two miles distant; and the estate was also interested by the intended mineral railway from Stoke-upon-Trent to Biddulph and Congleton, which will afford greatly increased facilities for the development of its mineral resources.

A plan of the property, and a section of the mines, may be seen, and further information obtained, at the offices of Messrs. KEARY and SHEPPARD, solicitors, Stoke-upon-Trent.—August 6, 1856.

TO ENGINEERS, IRONFOUNDERS, MACHINISTS, AND OTHERS.

IMPORTANT SALE OF FIRST CLASS MACHINERY, AT THE WHINFIELD WORKS, SMETHWICK, NEAR BIRMINGHAM.

MR. RICHARD CLARKE has been favoured with instructions from Mr. Adam Dixon and Mr. Alexander Morton Bell (who have dissolved partnership), to SUBMIT TO PUBLIC AUCTION, at the above Works, situated in Harnden-street, near to the High Park-road, Smethwick, on Monday and Tuesday, the 22d and 23d days of September inst., the WHOLE of their costly and very valuable MACHINERY, TOOLS, and EFFECTS, comprising a very compact and highly finished 8-horse power HIGH-PRESSURE STEAM-ENGINE, with overhead reverse cylinder, 9 in. diameter, and boiler, 13 ft. long and 4 ft. diam., with complete set of boiler mountings—viz., safety-valve, water indicator, Bourdon's patent steam pressure gauge, test cocks, steam, feed, and exhaust pipes, check valve, steam cock, &c.

A very powerful and costly SCREW-CUTTING and SLIDE LATHE, by J. and J. Kershaw, of Manchester, with 10 in. back geared headstocks, planed bed, 36 ft. long, 16 1/2 in. face, with guide screw and rack the whole length of bed, saddle and compound slide rest, two face plates, improved stay for sliding, bell chuck, complete set of change wheels, and self-acting traverse motion, extra raising blocks, face plates, clamps, steadies, overhead driving apparatus, and disengaging gear, complete.

A valuable PLANING MACHINE, by Lord, of Leeds, will plane 6 ft. long by 3 ft. 6 in. wide and 2 ft. high, with driving apparatus, complete.

A capital SLIDE SCREW-CUTTING LATHE, with 12 in. headstocks, double geared bed, 12 ft. long, compound slide rest and saddle, two face plates, bell chuck, and complete set of change wheels, and overhead motion to ditto.

A useful double geared LATHE, with 9 in. headstocks, planed cast-iron bed, 9 ft. long, fitted with rack and traversing saddle, compound slide rest, hand rest, and two face plates.

TWO valuable SELF-ACTING and VERTICAL DRILLING MACHINES, by J. and J. Kershaw, of Manchester.

TWO valuable SHAPING MACHINES, by Lord, of Leeds.

A powerful LONG-STROKE CRUISING CLIPPING MACHINE, with bright counter shaft, fast and loose pulleys, heavy fly-wheel, plummer blocks, brackets, &c.

Screwing machines, shiping apparatus, valuable screwing tackle, by Whitworth and others; cast-steel turning and planing tools, rimers and rose bits; 80 ft. of 2 1/2 in. black shafting, with numerous pulleys; a capital 30 in. blowing fan, by Middleton; useful foundry requisites, cupolas, moulding boxes, &c.; several best smiths' anvils, swage blocks, Oliver and Oliver block, and capital lot of smiths' tools; quantity of new machinery and general patterns; 10 new well-made and easy-going mill crabs, engineers and ironfounders' stores; office furniture; a first-rate trap and trap harness; narrow wheel cart and cart harness, nearly new; and other valuable effects.

The auctioneer confidently recommends the above machinery to the attention of parties in want of first-class tools, most of it being of recent make and quite equal to new. It may be seen in motion on Friday, the 19th inst., between the hours of Ten o'clock in the morning and Five o'clock in the afternoon.

Catalogues may be had on application to JOHN HOWARD BAKER, Esq., solicitor, 12, Watlington-street, Birmingham; RALPH DOCKER, Esq., solicitor, Smethwick; the auctioneer, 13, Temple-street, Birmingham; or by post, on application by letter, enclosing four postage stamps.

SALE OF VERY DESIRABLE AND COMPACT FREEHOLD IRONFOUNDRY AND PREMISES, AT SMETHWICK, NEAR BIRMINGHAM.

MR. RICHARD CLARKE WILL SELL, BY AUCTION, on Thursday, the 25th day of September inst., at the Union Hotel, Union-street, Birmingham, at Five o'clock in the afternoon, subject to conditions then to be produced (by direction of Mr. Adam Dixon and Mr. Alexander Morton Bell, who have dissolved partnership), ALL those valuable newly-erected compact FREEHOLD PREMISES, called "WHINFIELD WORKS," elegantly situated in Harnden-street, Smethwick, in the parish of Harborne, and county of Stafford, now in the occupation of the said Messrs. Dixon and Bell, as engineers and ironfounders, consisting of lofty and well lighted fitting shop, 60 ft. by 24 ft.; engine and boiler house; chimney stack; lofty foundry, 60 ft. by 24 ft.; pot furnace; muffle; range of smiths' shops, 63 ft. long, containing eight excellent smiths' hearths; well lighted pattern makers' shops; store rooms; stabling for four horses; cart shed; drying shop; dressing sheds; convenient offices; handsome gateway entrance; large yard and out-buildings, &c., belonging thereto. The whole most substantially built for the express purposes of the trade, under the immediate superintendence of Mr. Dixon, who has spared neither time nor expense in rendering this one of the

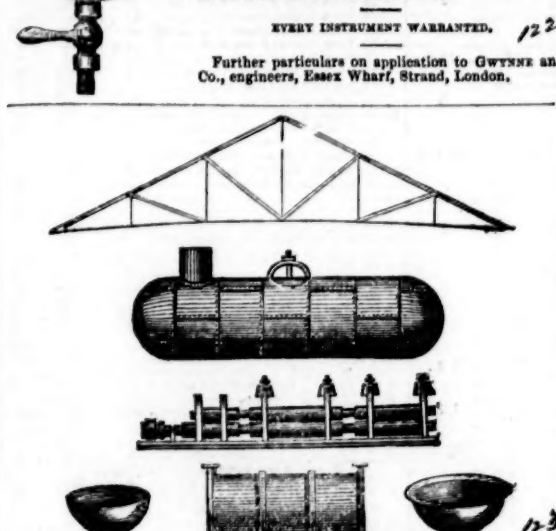
PATENT FURNACES AND STEAM BOILERS.—LEE STEVEN'S PATENT FURNACES PREVENT SMOKE, ECONOMISE FUEL, INCREASE STEAM, extend the flame through the flues, and are easily and safely adapted to any evaporative or heating purpose. Official reports, working drawings, and testimonials of hundreds of references, and other practical information, at No. 1, Fish-street-hill, City, where particulars are also given of LEE STEVEN'S PATENT SAFETY STEAM BOILERS, marine and land.

SELF-ACTING SAFETY ALARM FOR BOILERS.—TO COLLIERY OWNERS AND MANUFACTURERS.—JOHNSTON'S PATENT SAFETY ALARM has now been PROVED to be CERTAIN and EFFECTUAL IN ACTION. Any disarrangement of the water supply to the boiler, or neglect on the part of the attendants, is immediately made known in the vicinity, and previous to any immediate danger. Price 50s.—Further particulars, with a drawing, may be had upon application to Mr. Watson, High Bridge Works, Newcastle-on-Tyne, sole manufacturer, who can furnish the highest testimonials of their efficiency. Also, always on hand, WATER and PRESSURE GAUGES, of the most approved kind; as well as the MINERS' SAFETY LAMPS, of the best description.

TO MARINE ENGINEERS, SCREW SHIP COMPANIES, AND MACHINISTS GENERALLY.

THE NEW PATENT MULTIPLE ROTATIVE GEARING.—This justly admired invention contrasts with the ordinary toothed gearing, for which it is proposed as a substitute, and possesses the pre-eminent advantages of COMPACTNESS, STRENGTH, DURABILITY, FREEDOM FROM NOISE and BACKLASH, UNIFORMITY and SMOOTHNESS OF ACTION, REDUCED FRICTION, FACILITY FOR LUBRICATION and REPAIR, and virtually WITHOUT RISK OF ACCIDENT, advantages unequalled in any other arrangement of gearing. It is proposed for all purposes where a change of speed is required, and is peculiarly applicable for screw propulsion. The proprietors of the patent are prepared to GRANT DISTRICT and OTHER LICENSES for the manufacture of this gearing, or to ENTER INTO CONTRACTS for the adaptation of the invention to screw steam-vessels, or other machinery, upon application to their agent, No. 3, Hanover Chambers, Buckingham-street, Adelphi, where any further particulars may be obtained, and models and testimonials inspected. The invention was honourably mentioned by the International Jury at the French Exhibition of 1855; and has been favourably noticed in the *Artisan* of June and July, 1855, and the *Mining Journal* of 8th December, 1855. Manufacturers treated with on the most liberal terms. Communications by letter post paid.

GWYNNE'S PRESSURE GAUGE.—These highly valuable instruments, from their EXTREME SIMPLICITY, UNERRING PRECISION OF ACTION, GREAT DURABILITY, and very MODERATE COST, are, without doubt, one of the prime desiderata of the day. PRICES.—Divisions on enamel dials indicating to 12 20, 30, 60, or 80 lbs. pressure on the square inch, 55s. each; to 140 lbs. ditto, 60s. each; to 200 and 300 lbs. ditto, 65s. each. Bourdon Gauges, 55s. each. Any other divisions on dial can be made to order. EVERY INSTRUMENT WARRANTED. Further particulars on application to Gwynne and Co., engineers, Essex Wharf, Strand, London.



THOMAS PERRY AND SONS, HIGHFIELDS FOUNDRY, BILSTON, MANUFACTURERS OF CHILLED AND GRAIN ROLLS, for iron-works, copper and zinc mills; and every description of FURNACE, IRON ROOFS, STEAM-ENGINES, AND STEAM-ENGINE BOILERS, TANKS, BRIDGES, SUGAR PANS, OAS and WATER PIPES, &c. STEAM CYLINDERS cast and bored up to 9 ft. diameter. CASTINGS made up to 25 tons weight. PLANING and TURNING done to order.

JOSEPH CRAWHALL, EXHIBITION 1851. CLASS VI. 78. HEMP AND WIRE ROPES OF EVERY DESCRIPTION.

IMPROVED LIFTING JACKS, IMPROVED HATCHET JACK, HALEY'S PATENT LIFTING JACK. MANUFACTURED BY W. AND J. GALLOWAY, PATENT RIVET WORKS, MANCHESTER. The attention of parties who employ Lifting Jacks, is respectfully requested to the superiority of those annexed, over those hitherto in use.

IMPORTANT TO ENGINEERS, MILLOWNERS, &c. NORTH WOOLWICH ELASTIC STEAM PACKING (CANVAS AND INDIA RUBBER). At 1s. 4½d. per lb. (Rings 3d. lb. extra); as supplied to Her Majesty's Dockyards. CAUTION.—None genuine unless stamped thus—



TESTIMONIALS. Commercial Mills, Cornbrook, Manchester, Oct. 6, 1854. GENTLEMEN.—We have been using almost exclusively, for the last three years, your Packing for our stuffing-boxes and steam and water-joints, previous to which time we tried all the sorts which came under our notice, but yours we consider decidedly the best and most economical. Messrs. S. W. Silver and Co., 3 and 4, Bishopsgate-street, London. King and Queen Ironworks, Rotherhithe, London, Nov. 11, 1854. GENTLEMEN.—We have tried your Patent Packing for some time in our steam-engines, and also in steam-pipe joints, and find it efficient and economical, and to be much superior to the ordinary hemp packing. It is especially serviceable in the slide valves. HOWARD RAYENHILL AND CO. Messrs. S. W. Silver and Co., 3 and 4, Bishopsgate-street, London. Works, Deptford, Jan. 29, 1856. I have pleasure in stating that the Packing of Messrs. S. W. Silver and Co. has been in use in the various parts of the engines on board the steam-ships of the company, and given every satisfaction. J. BEARDMORE, Engineer, General Steam Navigation Company. Copies of further testimonials forwarded on application to S. W. Silver and Co., 3 and 4, Bishopsgate-street Within, opposite the London Tavern.

RAILWAY WAGONS.—WILLIAM A. ADAMS AND CO., MIDLAND WORKS, BIRMINGHAM. BROAD AND NARROW GAUGE COAL AND IRONSTONE WAGONS IN STOCK—FOR SALE OR HIRE.

THE RAILWAY CARRIAGE COMPANY, OLDBURY, NEAR BIRMINGHAM. MANUFACTURERS OF EVERY DESCRIPTION OF RAILWAY PLANT AND IRONWORK. NEW AND SECOND-HAND RAILWAY WAGONS ALWAYS IN STOCK FOR SALE OR HIRE.

RAILWAY WHEEL AND AXLE WORKS.—GEORGE WORSDELL AND CO., WARRINGTON, MANUFACTURERS OF EVERY DESCRIPTION OF HAMMERED IRON, TYRES, AXLES, &c.

WARRINGTON FORGE AND BAR IRON WORKS, WARRINGTON. GEORGE WORSDELL AND CO., MANUFACTURERS OF EVERY DESCRIPTION OF MERCHANT BARS.

BURGIN AND WELLS, STEEL CONVERTERS AND REFINERS, MANUFACTURERS OF RAILWAY CARRIAGE AND WAGON SPRINGS, IMPROVED CAST-STEEL FILES, &c. HOLLIS CROFT STEEL WORKS, SHEFFIELD.

JOHN BRYAN, GENERAL COMMISSION AGENT 1, SANDHILL, NEWCASTLE-ON-TYNE. CONTRACTS made for all kinds of MACHINERY, CAST AND WROUGHT-IRON, RAILWAY BARS, ANCHORS, CHAINS, COALS, COKE, FIRE-BRICKS, &c. All orders promptly shipped and forwarded. Prices and Lists of Freight or Carriage sent on application.

MR. WILLIAM NAISH, of NEWPORT, MONMOUTHSHIRE, INSPECTOR OF RAILS, begs most respectfully to acquaint merchants, brokers, engineers, and others connected with the British iron trade, that he still CONTINUES TO EXECUTE ORDERS OF INSPECTION throughout the various districts of South Wales and adjacent ironworks; and confidently refers to the satisfaction of the United States and the Canada, as well as to Continental Europe, as a proof of the fidelity, carefulness, and promptitude of his inspections. Newport, Monmouthshire, August, 1856.

TO IRONMASTERS, MERCHANTS, CONTRACTORS, FOUNDRERS, &c.—Messrs. DAUNT AND MOFFAT, METAL BROKERS, 50, ST. VINCENT STREET, GLASGOW, OFFER THEIR SERVICES for the PURCHASE and SALE of FIG and MANUFACTURED IRON. All orders carefully executed, and prompt shipments made.

THE PERMANENT WAY COMPANY.—Among other recent important inventions, the company beg to call particular attention to PRINCE'S PATENTS for CASTING RAILWAY CHAIRS; POLE'S PATENT IMPROVED FISH JOINT; PATENT HOLLOW SPLIT SPIKES; and Dr. BOUCHERIE'S IMPROVED PROCESS FOR PRESERVING SLEEPERS, FENCING, TELEGRAPH POSTS, &c., FROM DECAY. Every information may be had upon application to CHARLES MAY, F.R.S., the manager, or to 20, Great George-street, Westminster. WILLIAM BOWDEN, Secy.

COALS FOR GAS AND COKE, of very superior quality, yielding 10,000 ft. of gas per ton, and producing COKE peculiarly adapted for locomotives, foundries, and smiths, MAY BE HAD in any quantity, direct from the collieries, by applying to THE BRITISH COAL AND COKE CO., Newport, Monmouthshire.

MESSES. R. & J. COUPE, ENGINEERS AND IRONFOUNDERS, MANUFACTURERS OF HORIZONTAL HIGH-PRESSURE STEAM-ENGINES, from 10 to 20-horse power; the latest description of engines mounted with their IMPROVED EQUILIBRIUM SLIDE VALVE, which has proved itself so eminently adapted for winding and other engines. Also, MANUFACTURERS OF THEIR IMPROVED BLAST ENGINES, PUMPING ENGINES, &c. (Vide Editor's Notice in the *Mining Journal*, Aug. 30, 1856, p. 593, under the head of Improvements in Donkey Engines.) Clayton Foundry, Wigan.

GOLD AND SILVER AMALGAMATING MACHINE.—Messrs. SYMONDS, FELL, and CO.'S PATENT AMALGAMATOR MAY BE SEEN IN DAILY OPERATION, effectually extracting gold and silver from the ore. They are prepared to PURCHASE any quantity of GOLD QUARTZ, or AUERIFORM EARTHS; or UNDERTAKE the REDUCTION OF ORES; or SUPPLY their NEW PATENT MACHINERY. Mill Wall General Crushing and Grinding Mills, Smelting and Assay Works, Mill Wall, Poplar.

SAFETY BLASTING CARTRIDGES.—JOHN WESTLAKE, HELSTON CORNWALL, MANUFACTURER of superior WATERPROOF BLASTING CARTRIDGES, and CARTRIDGE CASES, for blasting operations in wet ground, which for CHEAPNESS, EFFICIENCY, and SAFETY, are unequalled. The following is taken from a large number of testimonials from practical and experienced agents:—"Trumpet Conals Mines, July 12, 1856.—Sir: We have examined and tried your Gutta Percha and India Rubber Cartridges, and beg to express our approbation of them for blasting in general; and we do not think that if you render them at a reasonable price you will have an extensive demand for them; they only require a trial to determine their superiority, as they are the best that have been yet made for miners' use."—RICHARD KENDALL; RICHARD QUENTRELL.

COPELAND'S PATENT SAFETY BLASTING CARTRIDGES. Established in 1849, and adopted by the principal mines in Devon and Cornwall. All others are imitations. "Copeland's cartridges are the most simple, the most safe, and the most efficient that can be produced."—*Royal Cornwall Gazette*.

PATENT SAFETY FUSE.—THE GREAT EXHIBITION PRIZE MEDAL was AWARDED to the MANUFACTURERS of the ORIGINAL SAFETY FUSE, RICKFORD, SMITH, DAVEY, and PRYOR, who beg to inform Merchants, Mine Agents, Railway Contractors, and all persons engaged in Blasting Operations, that, for the purpose of protecting the public in the use of a genuine article, the PATENT SAFETY FUSE has now a thread wrought into its centre, which, being patent right, infallibly distinguishes it from all imitations, and ensures the continuity of the gunpowder. This Fuse is protected by a Second Patent, is manufactured by greatly improved machinery, and may be had of any length and size, and adapted to every climate. Address:—RICKFORD, SMITH, DAVEY, and PRYOR, Tuckermill, Cornwall.

SAFETY FUSE.—Messrs. WILLIAM BRUNTON and CO., PEN-HALLICK, near REDRUTH, CORNWALL, MANUFACTURERS OF FUSE, of every size and length, as exhibited in the Great Exhibition of 1851, and supplied to the Royal Arsenal at Woolwich, the Arctic Expedition, and every part of the globe. Messrs. BRUNTON & CO. are at all times PREPARED TO EXECUTE THE UNLIMITED ORDERS for SUPPLYING FUSE direct from their own MANUFACTORY, and warrant that it will prove equal to, if not better, than any to be procured elsewhere.

TO COAL PROPRIETORS.—GEORGE FORSTER'S PATENT TRAP DOORS ARE NOW AT WORK in some of the pits near Wigan. Their construction is simple; one door is always shut, so that a regular steady current of air is kept in the workings. The doors cannot be left open by carelessness, therefore no pits producing gas should be without them.—Testimonials and model may be seen by application to G. FORSTER (late Standish Colliery), New Town, near Wigan.

TO RAILWAY CONTRACTORS, MINERS, &c.—THE UNDERSIGNED RECEIVE ORDERS for AMERICAN MADE CAST-STEEL PICKS, SPADES, SHOVELS, COLLINS' AXES, &c., which will be delivered in England, India, Australia, &c., at the American manufacturers' prices, on payment of a small commission. The above cast-steel tools are much lighter, more durable, and cheaper, than any yet offered, and enable the workmen to do a much better day's work.—Samples can always be seen at Sheaf Works, Sheffield. Apply to EYRE, WARD, and

PATENT IMPROVED WIRE ROPE WORKS, MILLWALL, POPLAR.—A. J. HUTCHINGS, and CO., Sole Makers to the Lords of the Admiralty.—ROUND and FLAT ROPES of every description, suitable for mining operations or other purposes, GALVANIZED or UNGALVANIZED, MANUFACTURED upon an IMPROVED PRINCIPLE, ensuring great pliability and durability. The superiority of these ropes over hempen ones, in point of strength, lightness, durability, and cost, is admitted by all who have tried them. GUIDE ROPES SIGNAL CORD, LIGHTNING CONDUCTORS, &c. Offices, 117, Fenchurch-street, London.

PUMPING MACHINERY.—LIFTING and FORCING PUMPS, PATENT CENTRIFUGAL and DOUBLE-ACTING PUMPS, DEEP WELL PUMPS, STEAM-ENGINES (portable and fixed), HYDRAULIC RAMS, WATER-WHEELS, and every description of MACHINERY, of the most approved construction, MANUFACTURED and SUPPLIED by GWYNNE and CO., Hydraulic and Mechanical Engineers, Essex Wharf, Strand, London. Catalogues on application.

MINING.—PORTABLE PUMPING and WINDING ENGINES. TO BE LET ON HIRE, or FOR SALE, several NEW and SECOND-HAND ENGINES, suitable for pumping, winding, or any other work, from 10-horse to 35-horse power.—Apply to Messrs. MOORE and HALL, engineers, Surrey Iron Works, Blackfriars-road, where they may be seen.

NEW PATENT ACT, 1852.—MR. CAMPIN, having advocated a Patent Law Reform before the Government and Legislature, and in the pages of the *Mining Journal*, &c., is now READY TO ADVISE and ASSIST INVENTORS in OBTAINING PATENTS, &c., under the NEW ACT. The Circular of Information, gratis, on application to the Patent Office and Designs' Registry, 156, Strand.

NOTICE TO INVENTORS AND PATENTEES.—THE OFFICES for PROCURING PATENTS are REMOVED to No. 32, ESSEX STREET, STRAND, LONDON, where all information (British and foreign) may be obtained gratis.—ATKIN and CO., patent agents and negotiators.

OVERLAND ROUTE.—STEAM TO INDIA AND CHINA, &c., VIA EGYPT.—THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY BOOK PASSENGERS AND RECEIVE GOODS AND PARCELS for the MEDITERRANEAN, EGYPT, ADEN, BOMBAY, CEYLON, MADRAS, and CALCUTTA, by their mail packets leaving Southampton on the 4th and 20th of every month; and for CHINA and the STRAITS, by those of the 4th of the month. For further particulars, apply at the company's offices, No. 123, Leadenhall-street, London; and Oriental-place, Southampton.

STEAM COMMUNICATION TO AND FROM ABERYSTWYTH AND LIVERPOOL, CALLING AT PORTMADOC; AND ABERYSTWYTH AND BRISTOL, CALLING AT LLANELLY.

The CAMBRIAN STEAM PACKET COMPANY (LIMITED), until the completion of the new iron screw steamer, the "Plymmon," now building for them, and unless prevented by any unforeseen occurrence, intend DISPATCHING, with goods and passengers, the powerful SCREW STEAMER "REGALIA," 200 tons barthen, or some other vessel suitable for the trade, on the days and hours hereunder mentioned:

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Sept. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Aberystwyth	Portmadoc	Aberystwyth	Portmadoc	Aberystwyth	Portmadoc	Aberystwyth	Portmadoc	Aberystwyth	Portmadoc	Aberystwyth	Portmadoc	Aberystwyth	Portmadoc	Aberystwyth	Portmadoc	Aberystwyth	Portmadoc	Aberystwyth	Portmadoc	Aberystwyth
8.30 a.m.	9. a.m.	8.30 a.m.	9. a.m.	8.30 a.m.	9. a.m.	8.30 a.m.	9. a.m.	8.30 a.m.	9. a.m.	8.30 a.m.	9. a.m.	8.30 a.m.	9. a.m.	8.30 a.m.	9. a.m.	8.30 a.m.	9. a.m.	8.30 a.m.	9. a.m.	8.30 a.m.

* Calling at Portmadoc. † Calling at Llanelly. ‡ Calling at Caernarvon.

N.B. Passengers are requested to take charge of their own luggage, as the company will not be responsible in any way for its safety. Horses, cattle, and vehicles of all kinds, are shipped on deck at the owner's risk. The company will not be answerable for any packages above the value of £10, unless the value thereof be previously declared, and paid for accordingly; nor for any loss of time, or accident occasioned by the steamer being engaged in towing or salvaging of any other vessel, nor for hazardous goods, unless so declared at time of shipping. For freight and further particulars, apply to the secretary, at the company's head offices, Parthenon Chambers, 14, Regent-street, London; or to the agents, E. T. TURNER, 19, Quay-street, Bristol; McCUNE and TAMPIN, Columbia-buildings, Brunswick-street, Liverpool; GEORGE GREEN, Cambrian Foundry, Aberystwyth; DAVID RASS, Llanelly; BENNETT WILLIAMS, Harbour Office, Portmadoc; and F. E. TUCKER, 4, Water-lane, Tower-street, London.

LESS FUEL, MORE STEAM, AND NO SMOKE.—GARDNER'S PATENT SMOKE DEFLECTOR IS SELF-ACTING, EASILY FIXED, IMPROVES THE DRAUGHT, AND SAVES FUEL. It is applicable to all kinds of furnaces, boilers, ovens, marine engines, locomotives, and open fires, and entirely removes the smoke nuisance.—Apply to the patentees, 21, Norfolk-street, Middlesex Hospital; to BURDICK and HEALY, 118, Dorset-street, Fleet-street; or to Z. D. BERRY, Albion Works, Victoria-road, Pimlico. Bakers' Ovens fitted for £5, license included.

HENRY J. MORTON AND CO'S (No. 2, BASINGHALL BUILDINGS, LEEDS) PATENT WIRE ROPES, for the use of MINES, COLLIERIES, RAILWAYS, &c.; one-half the weight of hemp rope, and one-third the cost; one-third the weight of chains, and one-half the cost—in all deep mines these advantages are self-evident. References to most of the principal colliery owners in the kingdom. GALVANISED SIGNAL CORDS and KNOCKER LINES; will not rust or corrode, and not affected by the copper water in mines. Very strong, and not at all liable to break. Prices from 15s. per 100 yards.

PATENT ASPHALTED ROOFING FELTS, 1d. per foot. DRY HAIR BOILER FELTS, to save COAL. PATENT BOILER COMPOUND, for bad water. FAIRBANK'S WEIGHING MACHINES, of all sizes. GALVANISED IRON ROOFING AND SPOUTING. MILLNERS' FIRE-PROOF SAFES. STOCK of MINING and RAILWAY STORES in Liverpool and London:—viz., OILS, GREASES, COTTON WASTE, SPUN YARN, WHITE LEAD, VARNISHES, &c., at very low prices.—Address, 2, Basinghall-buildings, Leeds. SOLE AGENTS for Prof. GLUKMAN'S ELECTRIC SIGNAL from RAILWAY GUARD to ENGINE DRIVER, and also for the use of COLLIERIES and MINES. N.B. Illustrated price list on application.

MOST IMPORTANT TO COLLIERY OWNERS AND COLLIERY MANAGERS.—HENRY J. MORTON AND CO., GALVANISED IRONWORKS, No. 2, BASINGHALL BUILDINGS, LEEDS, beg to call attention to their IMPROVED SIGNAL BELL, especially prepared to meet the requirements of the new Act for the Inspection of Coal Mines. It has met with the decided approval of many large colliery owners and managers. SIMPLE, EFFICIENT, and CHEAP. Price £1 10s. each. BYRAM'S PATENT ANEMOMETER, for testing the ventilation. Price 25s. to £4 4s. each. STEAM PRESSURE GAUGES, very strong and accurate, £2 each. For further information, apply to H. J. MORTON AND CO., 2, Basinghall-buildings, Leeds.

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TO ENGINEERS, MACHINE MAKERS, AND OTHERS.—CHAS. MACINTOSH and CO., PATENTERS and MANUFACTURERS of the VULCANISED INDIA-RUBBER, in all degrees of elasticity, recommend this material as the best for SEALING the ACTION of HOT or COLD WATER, GAS, STEAM, ACIDS, and GREASE. It is used extensively for valves in marine and land engines, railway buffers and springs, washers for pipe joints, hose, and tubing, and also for gas holders, acid pumps, alkali cisterns, &c. Articles, moulded or otherwise, made to any size or figure.—Address, 3, Cannon-street West, London; and Cambridge-street, Manchester.

VULCANISED INDIA RUBBER MACHINE BANDING, does NOT STRETCH or SLIP on the pulleys, will last longer than leather at less cost, and will do more work than any other material. HOSE for BREWERIES, &c., warranted NOT TO IMPART the SLIGHTEST TASTE to any liquor passing through it, and to resist the effects of acid, grease, or any heat below 300°. Also, HOSE for LOCOMOTIVES, GARDENING, AGRICULTURAL, and other purposes. WASHERS for HOT or COLD WATER, or STEAM. The above articles kept in stock, others made to order. VALVES, RINGS, &c., cut from sheet at a minute's notice. Price lists on application.—DODD, BACON, and Co., 44, St. Paul's Church-yard, London.

NOTICE TO RAILWAY AND STEAM-BOAT TRAVELLERS.—ANDERTON'S HOTEL, 162, 164, and 165, FLEET STREET, BREAKFAST, with joint, is 6d. BEDS, 10s. 6d. per week. DINNERS from Twelve to Eight o'clock; joint and vegetable, 1s. 6d.; with soup or fish, 2s. TURTLE SOUP and VENISON DAILY. TABLE D'HOTE at Half-past One and Half-past Five, at Two Shillings each. A night porter in attendance.

30,000 NERVOUS MIND AND HEAD SUFFERERS, from noblemen to mechanics, having tried all advertised and other remedies without cure, have, during 18 years, been obliged to apply to the Rev. Dr. WILLIS MOSELEY, 18, Bloomsbury-street, Bedford-square, London, and 50 are not known to be uncured. Means of cure only to be paid for, and a relapse prevented for life. "Novel Observations," a pamphlet on nervousness, frank to any address if one stamp is sent; or, for 30, "Twelve Chapters on the only means of Curing Nervous or Mind Complaints."

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THE MINING SHARE LIST.

Shares.	Mines.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.
5120	Alfred Consols (copper), Phyllick	21. 11s. 10d.	21 11	10	13 14	215 0 0
1024	Bakerwidened (tin), St. Just	11 1/2	11 1/2	11 1/2	11 1/2	12 5 0
4000	Bedford United (copper), Tavistock	26. 6s. 8d.	26 6	8	7 1/2	8 10 0
240	Bosman (tin), St. Just	20 1/2	20 1/2	20 1/2	20 1/2	9 0 0
200	Botolph (tin, copper), St. Just	9 1/2	9 1/2	9 1/2	9 1/2	3 7 5
100	Brightside and Froggatt Grove, Derbyshire	30	30	30	30	3 0 0
100	Bryndall Hall (lead), Flint	20	20	20	20	13 0 0
1000	Bryndall, Llanidloes, Montgomeryshire	20	20	20	20	0 5 0
6000	Bwlch (silver-lead), Cardiganshire	2 1/2	2 1/2	2 1/2	2 1/2	0 2 6
1000	Carn Brea (copper, tin), Illogan	15	15	15	15	231 10 0
2048	Carnyorth (tin), St. Just	4 1/2	4 1/2	4 1/2	4 1/2	0 15 0
10000	Castle Slate Quarry, Dolwyddelan	4 1/2	4 1/2	4 1/2	4 1/2	0 2 0
200	Cefn Cwm Brynwy (lead), Cardiganshire	33	33	33	33	3 0 0
256	Condurow (copper, tin), Camborne	30	30	30	30	68 0 0
30000	Craven Moor (lead), Yorkshire	30	30	30	30	0 0 0
128	Cwmystwith (lead), Cardiganshire	60	60	60	60	70 0 0
1024	Devon Great Consols (copper), Tavistock	1	1	1	1	506 0 0
672	Ding Dong (tin), Gwilt	42 1/2	42 1/2	42 1/2	42 1/2	11 7 6
179	Doleath (copper, tin), Camborne	25 1/2	25 1/2	25 1/2	25 1/2	891 14 0
12800	Drake Walls (tin, copper), Calstock	11. 10s. 6d.	11 10	6	2 1/2	0 9 0
300	East Daren (lead), Cardiganshire	32	32	32	32	12 0 0
138	East Pool (tin, copper), Pool, Illogan	24 1/2	24 1/2	24 1/2	24 1/2	200 0 0
1024	East Wheel (silver-lead), Derbyshire	3 1/2	3 1/2	3 1/2	3 1/2	0 5 0
1400	Eyam Mining Company (lead), Derbyshire	3 1/2	3 1/2	3 1/2	3 1/2	8 3 4
491	Fowey Consols (copper), Tywardreath	40	40	40	40	404 18 0
2240	Foxdale, Isle of Man	71. 10s. 6d.	71 10	6	30 1/2	20 7 3
320	Galva (New Shares of 25s. each)	23	23	23	23	11 4 0
4448	General Mining Co. for Ireland (cop., lead)	3	3	3	3	1 0 0
1024	Gonamena (copper), St. Cleer	13 1/2	13 1/2	13 1/2	13 1/2	0 7 6
18750	Great Polgroth (tin), St. Austell	4 1/2	4 1/2	4 1/2	4 1/2	0 10 0
8000	Great South Tolgus	2 1/2	2 1/2	2 1/2	2 1/2	0 2 6
26065	Great Wheel Vor (tin, copper), Helston	5	5	5	5	0 5 0
119	Great Work (tin), Gernoe	100	100	100	100	206 10 0
1024	Herodfoot (lead), near Liskeard	8 1/2	8 1/2	8 1/2	8 1/2	2 12 6
6000	Hingston Down Consols (copper), Calstock	3 1/2	3 1/2	3 1/2	3 1/2	2 13 6
3000	Holyford (copper), near Tipperary	11	11	11	11	3 17 6
76	Jamaica (lead), Mold, Flintshire	31. 10s. 6d.	31 10	6	—	880 0 0
20	Laxey Mining Company, Isle of Man	1000	1000	1000	1000	1320 0 0
180	Levant (copper, tin), St. Just	105	105	105	105	1054 0 0
400	Lisburne (lead), Cardiganshire, Wales	18 1/2	18 1/2	18 1/2	18 1/2	225 15 0
6000	Marke Valley (copper), Cardigan	41. 10s. 6d.	41 10	6	3 1/2	0 5 0
8000	Mendip (copper, tin), Somerset	3 1/2	3 1/2	3 1/2	3 1/2	1 11 0
5000	Merilyn (lead), Flint	3 1/2	3 1/2	3 1/2	3 1/2	1 11 0
30000	Mining Co. of Ireland (copper, lead, coal)	7	7	7	7	11 14 6
5000	Nantes and Penrhil	1 1/2	1 1/2	1 1/2	1 1/2	0 1 6
7500	Nantlle Vale (slate), Llanfyllin	1	1	1	1	0 3 0
6400	Nether Heath, Westmoreland	2 1/2	2 1/2	2 1/2	2 1/2	0 2 0
470	Newtonards Mining Company, Co. Down	50	50	50	50	47 0 0
300	North Pool (copper, tin), Pool	22 1/2	22 1/2	22 1/2	22 1/2	324 0 0
140	North Roakear (copper), Camborne	10	10	10	10	249 10 0
800	North Wheel Basset (copper, tin), Illogan	5 1/2	5 1/2	5 1/2	5 1/2	9 14 0
6400	Par Consols (copper), St. Blazey	1 1/2	1 1/2	1 1/2	1 1/2	25 16 0
500	Peak United (lead), North Derbyshire	3 1/2	3 1/2	3 1/2	3 1/2	4 10 0
200	Pheasant (copper, tin), Linkinhorne	3 1/2	3 1/2	3 1/2	3 1/2	18 10 0
1600	Poiborro (tin), St. Agnes (Preferential)	13	13	13	13	13 10 0
560	Providence Mines (tin), Ury Lelant	201. 10s. 6d.	201 10	6	60 61	48 4 6
2500	Rhoswylod and Bacheidion (lead)	11 1/2	11 1/2	11 1/2	11 1/2	0 7 0
512	Rosewarne United (copper, tin), Gwinnar	12	12	12	12	23 10 0
13000	Sortridge Consols (cop., tin), Whitechurch, Devon	6 1/2	6 1/2	6 1/2	6 1/2	0 5 0
256	South Caradon (copper), St. Cleer	2 1/2	2 1/2	2 1/2	2 1/2	412 0 0
128	South Crinias (copper), St. Austell	19	19	19	19	60 0 0
9000	South Tamar (silver-lead), Beerferris	11. 6s. 6d.	11 6	6	1/2	3 6 0
236	South Tolgus (copper), Redruth, Cornwall	16	16	16	16	0 0 0
496	South Wheel Frances (cop., tin), Illogan	187. 10s. 6d.	187 10	6	300 363	214 5 0
1024	Spearcon Consols (tin), St. Just, Cornwall	3 1/2	3 1/2	3 1/2	3 1/2	8 8 0
280	Spearcon Moor (copper), St. Just	237. 7s. 8d.	237 7	8	—	3 10 0
1024	St. Aubyn and Grylls (cop., tin), Breage	31. 10s. 6d.	31 10	6	3 1/2	0 17 6
94	St. Ives Consols (tin), St. Ives	8 1/2	8 1/2	8 1/2	8 1/2	888 0 0
9000	Tamar Consols (silver-lead), Beerferris	4 1/2	4 1/2	4 1/2	4 1/2	4 13 6
6000	Tinctor (copper, tin), near Pool, Illogan	9	9	9	9	7 8 6
2048	Trehane (silver-lead), Menheniot	4 1/2	4 1/2	4 1/2	4 1/2	8 11 0
572	Treyon Consols (tin), St. Ives	11 1/2	11 1/2	11 1/2	11 1/2	1 15 0
96	Tresavean (copper), Gwennap, Cornwall	33 1/2	33 1/2	33 1/2	33 1/2	467 15 0
120	Trethellan (copper), Gwennap, Cornwall	10 1/2	10 1/2	10 1/2	10 1/2	403 13 6
4000	Tretoll (copper, tin), Bodmin	12 1/2	12 1/2	12 1/2	12 1/2	0 3 0
4966	Trewetha (silver-lead), Menheniot, Cornwall	3 1/2	3 1/2	3 1/2	3 1/2	0 3 0
100	Trumpet Consols (tin), near Helston	95	95	95	95	5 5 0
400	United Mines (copper), Gwennap	40	40	40	40	61 5 0
30000	Vale of Towy (ld.), Llangunor, Carmarthen	1 1/2	1 1/2	1 1/2	1 1/2	0 3 0
1024	Wellington (copper, tin), Perranrath	8 1/2	8 1/2	8 1/2	8 1/2	2 5 0
10000	Welsh Pool (silver-lead), Tal-y-bont, Card.	5	5	5	5	1 0 0
2000	West Basset (copper), Illogan	1 1/2	1 1/2	1 1/2	1 1/2	0 10 0
256	West Caradon (copper), Liskeard	20	20	20	20	274 5 0
256	West Damsel (copper), Gwennap	210 7	210 7	210 7	210 7	12 0 0
1024	West Providence (tin), St. Erth	5	5	5	5	26 15 0
400	West Wheel Seton (copper), Camborne	38 1/2	38 1/2	38 1/2	38 1/2	46 10 0
1228	Wheel Arthur (copper), Calstock	7 1/2	7 1/2	7 1/2	7 1/2	6 10 0
240	Wheel Bal (tin), St. Just	6 1/2	6 1/2	6 1/2	6 1/2	4 10 0
512	Wheel Basset (copper), Illogan	3 1/2	3 1/2	3 1/2	3 1/2	415 10 0
320	Wheel Basset (copper), Redruth	3 1/2	3 1/2	3 1/2	3 1/2	801 5 0
1024	Wheel Charlotte, Perranrath	3 1/2	3 1/2	3 1/2	3 1/2	1 10 0
250	Wheel Clifford (copper), Gwennap	300	300	300	300	12 0 0
5700	Wheel Exmouth and Adams United	41. 14s.	41 14	—	—	2 2 0
5000	Wheel Fortescue, Bodmin	1 1/2	1 1/2	1 1/2	1 1/2	0 2 4
128	Wheel Friendship (copper), Devon	50	50	50	50	375 10 0
512	Wheel Jane (silver-lead), Ken	3 1/2	3 1/2	3 1/2	3 1/2	4 10 0
1024	Wheel Kitty (tin), Ury Lelant	2 1/2	2 1/2	2 1/2	2 1/2	30 0 0
496	Wheel Lovell (tin), Wendron	19 1/2	19 1/2	19 1/2	19 1/2	67 0 0
448	Wheel Margaret (tin), Ury Lelant	19 1/2	19 1/2	19 1/2	19 1/2	19 12 6
1024	Wheel Mary Ann (lead), Menheniot	3 1/2	3 1/2	3 1/2	3 1/2	191 8 0
80	Wheel Owles, St. Just, Cornwall	70	70	70	70	40 10 0
210	Wheel Reeth (tin), Ury Lelant	24 1/2	24 1/2	24 1/2	24 1/2	269 10 0
198	Wheel Seton (tin, copper), Camborne	107	107	107	107	50 10 0
520	Wheel Trevelyan (silver-lead), Liskeard	8 1/2	8 1/2	8 1/2	8 1/2	10 2 6
1024	Wheel Trevelyan (tin, copper), Gwinnar	11. 9s.	11 9	—	—	17 0 0
4966	Wheel Wrey (lead), St. Ives	8 1/2	8 1/2	8 1/2	8 1/2	25 13 0
6000	Wicklow (copper), Wicklow	5	5	5	5	0 10 0

* Dividends paid every two months. † Dividends paid every three months.

FOREIGN MINES.

Shares.	Mines.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.
5000	Alten Mining Company (copper), Norway	514 1/2	514 1/2	514 1/2	514 1/2	4 5 0
51888	Baden, Grand Duchy of	3 1/2	3 1/2	3 1/2	3 1/2	0 10 0
10000	Brazilian Imperial (gold), Brazil	25 1/2	25 1/2	25 1/2	25 1/2	34 17 6
2464	Burra Burras (copper), South Australia	5	5	5	5	0 10 0
12000	Cobre Copper Company (copper), Cuba	40	40	40	40	11 12 0
100000	Colonial Gold, Australia	1	1	1	1	0 1 6
10000	Copado Mining Company (copper), Chili	16	16	16	16	5 8 0
20000	General Min. Assoc. (iron, coal), Nova Scotia	20	20	20	20	9 10 0
15000	Linas (lead), Pozo Ancho, Spain	3	3	3	3	3 10 6
10000	Linsatian (of Portugal)	1 1/2	1 1/2	1 1/2	1 1/2	0 4 8
103815	Marquitta and New Granada	1	1	1	1	0 1 0
36000	Oberlin (lead), New Granada	1	1	1	1	0 2 6
5000	Peninsular Mining Company	1	1	1	1	0 2 6
10000	Pontgibaud (silver-lead), France	20	20	20	20	1 0 0
7000	Rio Santiago (copper), Cuba	12 1/2	12 1/2	12 1/2	12 1/2	1 5 0
104000	San Fernando (silver-lead), Linares	1	1	1	1	0 1 0
11000	St. John del Rey (gold), Brazil	15	15	15	15	33 7 6
43174	United Mexican (silver), Mexico	28 1/2	28 1/2	28 1/2	28 1/2	1 16 6
70000	Waller (gold), Goochland Co., Virginia	1	1	1	1	0 9 0
30000	Mexican and South American Smelting Co.	9	9	9	9	6 15 0
84676	North British Australasian	1	1	1	1	0 1 8

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.
20000	Acanthian Chemical Iron (Limited)	2	2	2	2	2 1/2
75000	Adelaide Lead and Gold Cons.	2	2	2	2	2 1/2
35000	Almaden (silver-lead), Spain	2	2	2	2	1 1/2
50000	Chancellorville Freehold	1	1	1	1	1 1/2
54560	Cologne Mining Company	1	1	1	1	1 1/2
124400	Poor Bowes, New Granada	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2

MINES WHICH HAVE SOLD ORES.

Shares.	Mines.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.
6000	Abbey Consols (lead), Cardigan	9 1/2	9 1/2	9 1/2	9 1/2	2 1/2
1024	Aberdovey (lead), Merioneth	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2
6980	Alger Consols Slate Quarry	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2
900	Balmain Cons. (tin), Ury Lelant	3 1/2	3 1/2	3 1/2	3 1/2	4
12000	Ballyvaughan (lead), Wicklow	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2
1460	Ballyvaughan, Co. Clare	51. 14s.	51 14	—	—	3 1/2
10000	Bampfyde (copper), Devon	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2
3000	Basset Gaze United (cop., tin), Ken	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2
4000	Bedford Consols	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2
7000	Beerlston United, Devon	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2
300	Bell and Lannar, Gwennap	11	11	11	11	11
2200	Bendeg (Limited)	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2
6000	Bodmin, Cornwall	17	17	17	17	17
1800	Bodmin Well (copper), Cornwall	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2
4966	Boringdon Consols, Plymouth	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2
400	Bronfild (lead), Wales	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2
420	Bundick Consols (tin), Perran	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2
6400	Buller and Basset United	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2
812	Butterdon (lead)	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2
6000	Cae-Cynon, Cardiganshire	10s. 6d.	10 6	—	—	4 1/2
3284	Calstock Consols (copper)	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2
2115	Calstock United (tin and cop.)	50 2	50 2	50 2	50 2	50 2
1000	Camborne Consols	18	18	18	18	18
64	Cambrin (gold)	62 1/2	62 1/2	62 1/2	62 1/2	62 1/2
6000	Camden Mawr (lead, copper), Ebb.	51 2	51 2	51 2	51 2	51 2
1000	Camel Quarry	20s.	20	20	20	20
1034	Caradoc Consols	10	10	10	10	10
233	Cargill, Newlyn	25	25	25	25	25
5000	Carnevornshire Slate	1	1	1	1	1
5000	Carnwau (lead, cop.), Mawgan	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2
1655	Carvannah (copper), Gwennap	11	11	11	11	11
6400	Carvath United, St. Austell	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2
9000	Catherine and Jane Consols	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2
6000	Cayan, North Wales	23 3	23 3	23 3	23 3	23 3
2000	Cira Gwyn (sil.-ld.), Cardigan	1	1	1	1	1
6000	Clara (lead), Cardiganshire	21 8	21 8	21 8	21 8	21 8
100	Clijah & W. Corbett (tin, cop.)	17 1/2	17 1/2	17 1/2	17 1/2	17 1/2
2000	Cloane Wood, Gwinnap	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2
2000	Ced Mawr Pool (ld.), Llanrwst	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2
1000	Collascombe (copper)	10	10	10	10	10
15000	Connamara (sil.-lead), Gwalay	4	4	4	4	4
2510	Cook's Kitchen, Illogan	215 18	215 18	215 18	215 18	215 18
30000	Uoathen (copper), Cork	1	1	1	1	1
256	Crook Hill	33	33	33	33	33
1055	Craddock Moor (cop., St. Cleer	8	8	8	8	8
9000	Craigaur (cobalt and nickel)	1s. 6d.	1 6	—	—	4 1/2
12500	Cross-gill (lead)	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2
6400	Crow Hill, St. Stephen's	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
9000	Cubert (silver-lead), Cornwall	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2
10000	Cwm Daren (ld.), Cardiganshire	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2
6700	Cwmduke Rock and Green-Lake	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2
1000	Cwm Erŷn (lead) Cardigan	8	8	8	8	8
6000	Cwm Sebon	23 11 6	23 11 6	23 11 6	23 11 6	23 11 6
3000	Dairview (cop. lead), Brecon	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2
1000	Daren (sil.-lead), Cardiganshire	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2
1000	Derwent (copper), Brecon	80	80	80	80	80
4056	Devon & Cornwall United (cop. & sil.)	24 0 1/2	24 0 1/2	24 0 1/2	24 0 1/2	24 0 1/2
3907	Devon and Courtney (copper)	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2
2695	Devon Burra Burra (copper)	24 19	24 19	24 19	24 19	24 19
10000	Devon Tin Mines, Dartmoor	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
4356	Devon Wheel Buller	21 10 6	21 10 6	21 10 6	21 10 6	21 10 6